RUSS OLSON VOLUME 31

TWIN CITY & LAKE SUPERIOR RAILWAY

Description

A brief history of the TC & LS Ry located between Minneapolis, MN and Superior, WI. Also known as “The Arrow Line,” this streetcar company planned a “third rail” method for power distribution instead of the traditional overhead lines.

Sub-divisions Within This Volume

- Contents of the entire binder

THE TWIN CITY & LAKE SUPERIOR RAILWAY

NO. IX—X. MAY AND JUNE. 1908.

Progress

THE MEN WHO BUILD RAILROADS
— CIVILIZATION'S BACKBONE —

Sunday on the Grade---Twin City & Lake Superior Road.

The art of investing for profit consists in getting into an enterprise whose destinies are guided by men of honesty and judgment when its future is before it—not behind it. Here lies the secret of fortune. The majority of investors wait until its future has been discounted, its good will capitalized, and, as a result, are receiving only 5 per cent, while the wise investor in the same enterprise in making from 10 per cent to 200 per cent on the actual money invested.

FASCINATING STORY

OF THE CONSTRUCTION OF A NECESSARY

ELECTRIC RAILROAD.

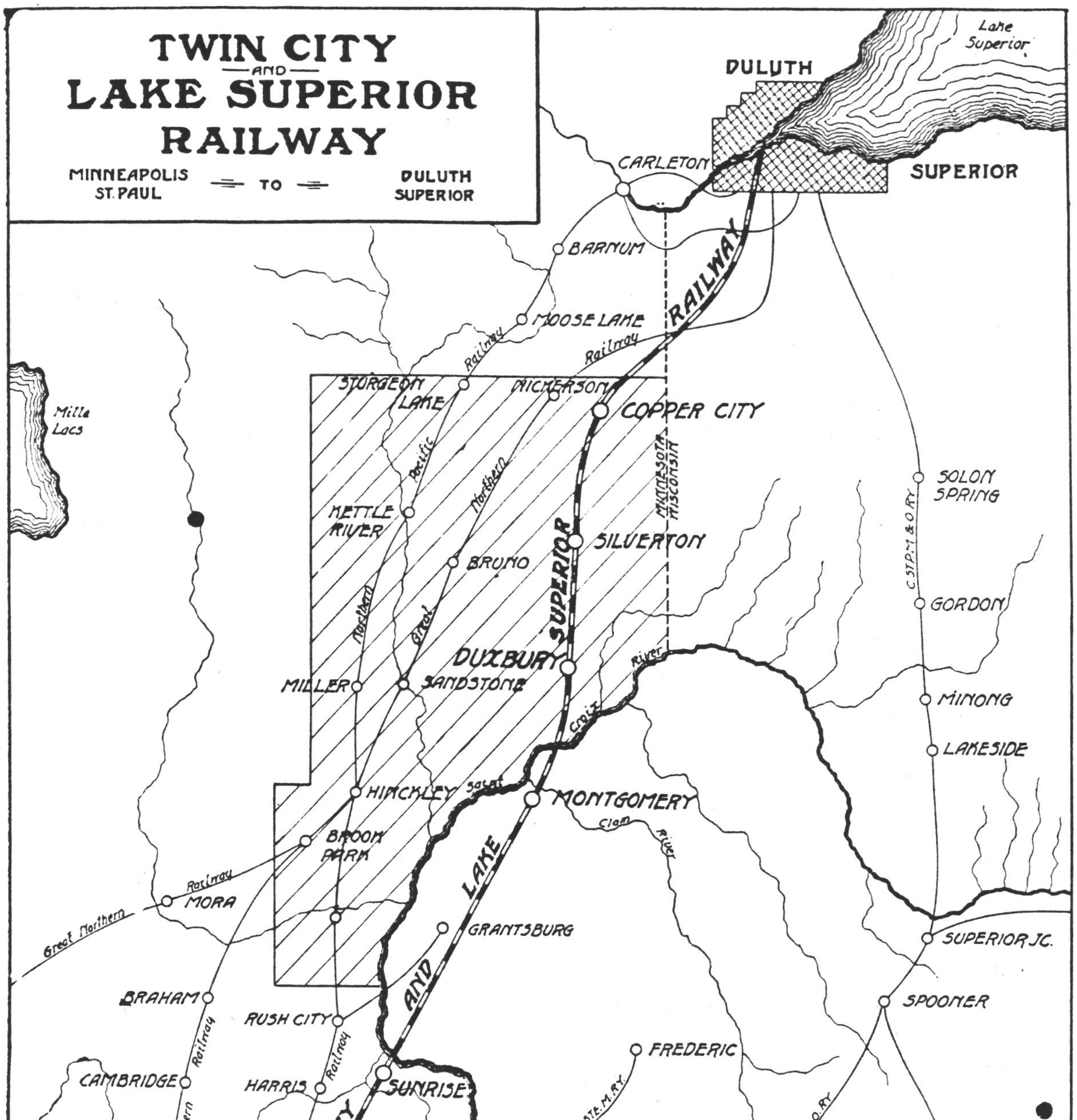
With Illustrations

Designed and Published in the Interest of the Twin City & Lake Superior Railway Company by
Western Surety & Adjustment Company, Fiscal Agents,
345 Railway Building MINNEAPOLIS, MINNESOTA.

MHS

Arrow Line Railroad brochure, 1908

MONEY - MAP of MINNESOTA



TWIN CITY AND LAKE SUPERIOR RAILWAY

MINNEAPOLIS ST. PAUL TO DULUTH SUPERIOR

Lake Superior
DULUTH
SUPERIOR
CARLETON
BARNUM
MOOSE LAKE
Railway
RAILWAY
STURGEON LAKE
NICKERSON
COPPER CITY
Mille Lacs
MINNESOTA WISCONSIN
SOLON SPRING
C. ST. P. M. & O. RY.
KETTLE RIVER
Pacific
Northern
SILVERTON
BRUNO
SUPERIOR
GORDON
Great
Northern
DUXBURY
MILLER
SANDSTONE
River
MINONG
Croix
LAKESIDE
HINCKLEY
Saint
MONTGOMERY
Clam
River
BROOK PARK
LAKE
Railway
MORA
Great Northern
GRANTSBURG
SUPERIOR JC.
AND
BRAHAM
RUSH CITY
SPOONER
Railway
Railway
FREDERIC
CAMBRIDGE
HARRIS
SUNRISE
Northern
CITY
M. ST. P. & S. STE. M. RY.
NORTH BRANCH
ISANTI
Pacific
River
C. ST. P. M. & O. RY.
BIRCHWOOD
TAYLORS FALLS
ST. CROIX FALLS
CUMBERLAND
BETHEL
Great
STACY
TWIN
Northern
Nor. Pac. Ry.
Croix
Linwood Lake
Coon Lake
WYOMING
Saint
CEDAR
M. ST. P. & S. STE. M. RY.
TURTLE LAKE
BARRON
CAMERON
ANOKA
Mississippi River
STILLWATER
NEW RICHMOND
KINGSLAND
MINNEAPOLIS
HUDSON
ST. PAUL
Saint Croix River
Minnesota River
LINE
HASTINGS
ELLSWORTH

TWIN CITY & LAKE SUPERIOR RAILWAY

Incorporated February 28, 1907, in Maine. Filed May 7, 1907, to do business in Minnesota. Authorized capital stock of $7 million of which $50 thousand was to be sold in Minnesota. The representative in Minnesota was F. B. Kidder, with offices in the Railway Building, Minneapolis.

In a half-page display advertisement in the May 11, 1907, SUPERIOR TELEGRAM the railway announced ambitious plans to build "---an electric double-track high-speed railroad---" between the Twin Cities and the Twin Ports. The "Arrow Line" was to utilize the "Farnham Inverted Protected Third Rail Electric System", named apparently for E. W. Farnham, president of the railway. "The company has completed preliminary surveys---it has the right-of-way from city limits to city limits. The public will be advised as to terminals." The stock offer stated that the investment would "---return to its stockholders annually every promise multiplied the biblical ten-fold."

[Some one in Brainerd, Minn., had a stock certificate for 20 shares.]

The Electric Railway Journal April 13, 1908, mentioned the electric "Arrow Line" between Minneapolis-St.Paul and Duluth, 129 miles: two hours running time compared to the railroad's five hours. The line appeared on the list of Electric Railway Cram's Atlas Map, page 221.

A Wisconsin history booklet contains a copy of a May/June 1908 advertisement of the Western Land & Improvement Company, 345 Railway Building, Minneapolis. An apparent subsidiary, the Western Promotion & Improvement Company was selling stock in the railway plus selling real estate in Duxbury, Minnesota, the home office of the subsidiary.

Electric Railway Journal, July 6, 1910: 50 miles of roadway have been graded, some near Minneapolis-St.Paul and the remainder south of Holyoke, Minnesota. It will be a third-rail electric railroad from Minneapolis-St.Paul via Grantsburg, Wisconsin, to Superior, Wisconsin, at 21st Street.

Electric Railway Journal, August 28, 1910: A new survey relocated the route from Foxboro, Wisconsin, to 64th St. and Tower Ave., Superior, Wisconsin. A description of the route was given. On Central Ave. N.E. from the Minneapolis city limits; north to Moore Lake; northeasterly around the east shore of Moore Lake to the west shore of Coon Lake; a 90 degree [sic] curve near the northwest shore of Coon Lake; then northeasterly through North Branch, Minnesota, to Grantsburg, Wisconsin; northerly to Holyoke, Minnesota; northeasterly to Foxboro, Wisconsin; and northeasterly to 64th St. and Tower Ave., Superior, Wisconsin.

A Minnesota Railroad & Warehouse Commission record card noted the following. "The line was surveyed but no construction done. Some stock sold. Some construction of roadbed in Chisago and Anoka Counties. Detail sheet shows approximate location." "Charles Hayes in the State Securities Dept. was on the survey of this line."

The last publicity apparently appeared during 1911.

The Minnesota Historical Society Research Center in St.Paul has a collection of documents from this company dated from 1906 through 1918 which were donated to the MHS in February, 1979, by Mrs. Leona N. Lowrey. The MHS index indicates the contents of the records which I have copied to pages 3 and 4. This index indicates that the Western Promotion & Improvement Company handled the land promotions, while the Western Surety & Adjustment Company handled the financial affairs.

The MHS index also indicates the MHS Audio-Visual Library has photographs of the grading: HE10/p19-27. Three of the photographs are available on the MHS Internet website visual resources data base; computer print-outs attached.

Negative #11168	Location HE6.41p10
Negative #64504	Location HE6.41p11
Negative #81559	Location HE6.41p12

The captions state "Grading in Chisago or Pine Counties, A. M. Hawley Photos, 1907-1908". Much of this grading appears on U.S.G.S. Topographic Maps; see photocopies attached.

The MRR&WC record card also states "License expired by law March 1, 1936. Secretary of State has no papers showing dissolution." "Fake company-busted after trying to promote on a crooked basis in 1912-1913." Since this record card was prepared as part of a 1936 public works railroad history project (summarized in the book RAILS TO THE NORTH STAR by Richard Prosser) I wonder about the accuracy of the last statement.

Promoted by the Western Land and Improvement Company of Minneapolis, this road was to run north from the Twin Cities crossing the Great Northern Line at Stacy then northeast across Chisago County to Sunrise, Minnesota, on the St. Croix where a bridge would span the river valley. Entering Wisconsin, the line would proceed to Grantsburg, then to the proposed town of Montgomery just west of Yellow Lake in Burnett County. The railroad would then continue back across the St. Croix into Pine County entering at Crosby Township and then north through Ogema and to the Ojibway village on the Tamarack River in Wilma Township. From that point it would head north to the platted town of Duxbury, which was the railroad "Headquarters." The Duxbury Village plat was located about two miles east of the present Duxbury community. After leaving the Duxbury depot the train would next stop at Whelans, a proposed village in Keene Township. Leaving Keene Township the line would continue into Park Township to the platted town of Silverton and future town of Otto. Entering Nickerson Township, the line would veer to the northeast where Copper City was to be established and then into Carlton County and finally Superior, Wisconsin.

The Promotion Company acquired 150,000 acres to support the right-of-way and land sales of farmland and townsites along the way. They sold stock through the Western Surety and Adjustment Company of Minneapolis to finance the venture. Agents were selected along the route to sell the land; bonuses were paid to the most successful.

Townsites were platted along the way, the owners sure that their lots would soon be sold at a good profit.

The Promotion Company advertised widely and did sell stock enough to start the project but not enough to see it through. The line was surveyed and much of the right-of-way roughed in. Townsites were platted, lots sold, and at least one hotel was built, the Silverton Hotel in Park Township, though it was later abandoned and destroyed in a grass fire.

Reading through the correspondence between the railroad and its stockholders, it appears that construction continued until the spring of 1910. In 1911, there was no activity and no plans to continue. In the file there were letters from stockholders demanding that construction begin again and letters from townsite promoters fearful that they had been left "holding the bag."

In 1911, the Soo Line Railroad was constructed serving the same general area. This sealed the fate of the Arrow Line.

In 1912 stockholders were unloading their stock.

If the Arrow Line had met with success, would we have ever heard of Markville, Cloverton, Kingsdale, Belden or Harlis? What would have been the fate of the Ojibway village, Duxbury, Whalens, Silverton, Otto and Copper City?

What is left of the Arrow Line? Some County old-timers remember the brushed-out right-of-way. The river bridge approaches are still there at Sunrise Village, Chisago County, as if waiting for the laborers to complete the job, and some yellowed village plat maps survive in the County courthouse.

Office DEPOT.

TWIN CITY & LAKE SUPERIOR RAILWAY

ELECTRIC RAILWAY REVIEW May 18, 1907 W. H. Crossland, vice-president, Minneapolis, writes that this company, whose incorporation was noted last week, will build a double-track third-rail electric line from Minneapolis and St.Paul, Minn., to Duluth, Minn., and Superior, Wis., 130 miles of which 91 are in Minnesota and 39 in Wisconsin. The road will be practically an air line and will intersect no present towns or villages. Surveys have been made and grading is to begin June 1. No general contracts are to be let. The road is to handle both freight and passengers. Maximum grade, 0.5 percent; maximum curvature, 1 ½ degrees; weight of rail, 70 pounds. About 4,500 feet of steel will be required for the five principal bridges, although the company is not at present in the market for equipment. E. W. Farnham of Chicago, president; J. H. Thomas, Minneapolis, chief engineer. Headquarters, 345 Railway Building, Minneapolis.

Incorporated February 28, 1907, in Maine, the corporation filed May 7, 1907, to do business in Minnesota. Authorized capital stock was $7 million. The representative in Minnesota was B. F. Kidder.

In a half-page display advertisement in the May 11, 1907, SUPERIOR TELEGRAM, the railway announced ambitious plans to build "---an electric double-track high-speed railroad---" between the Twin Cities and the Twin Ports. The "Arrow Line" was to utilize the "Farnham Inverted Protected Third Rail Electric System" devised by E. W. Farnham. "The company has completed preliminary surveys---it has the right-of-way from city limits to city limits. The public will be advised as to terminals." The capital stock offer stated that the investment would "---return to its stockholders annually every promise multiplied the biblical ten-fold."

STREET RAILWAY JOURNAL January 6, 1906 The inverted third rail being installed upon the Philadelphia & Western Railroad---is what is known as the Farnham protected, inverted third rail, and is such a radical departure from the usual type of third rail that the operation of the road will no doubt be watched with unusual interest. The rail is the invention of E. W. Farnham, of the Farnham Company, electrical engineers and railroad contractors, Chicago, and its general designs may be understood from the illustration. [Not included here.] The upright support brackets of malleable iron are securely fastened to the ends of the ties by lag screws at intervals of 8 feet. The rail, of "U" shape, is provided with flanges at its two sides, by which it is suspended from the support brackets in a manner that effectively insulates it from the support brackets and at the same time permits the rail to move longitudinally, thus providing for the usual expansion and contraction. Sufficient allowance is made in the hanger for the rail to take up all vibration and jar between the iron hanger and steel rail, caused by the passing of trains upon the track rails. The method followed is claimed to be superior to that of supporting the rail in or on any insulation of a crystalline nature under tension, as it avoids all tendency to direct vibration, jarring or pounding between the insulating material and the steel rail.

ELECTRIC RAILWAY REVIEW October 12, 1907 This company, recently incorporated to build a high-speed third-rail interurban railway from St.Paul and Minneapolis to Duluth, Minn., and Superior, Wis., will begin construction of the line at once. Preliminary surveys are now in progress. The line as proposed will be about 130 miles long and will be operated by steam until motive power for the equipment of the road with the Farnham inverted third-rail system can be installed. By the building of this line a reduction of 30 miles will be afforded in the present distance between the points named, and as the route chosen by the new company is the shortest possible one that physical conditions will permit, quick and efficient freight, passenger, mail and express business for the patrons of the road is assured. It is estimated that the road will cost $21,500 per mile, or a total of $2,775,500 when completed. The company is capitalized at $7,000,000 divided into 10,000 shares of $100 each. The executive offices of the company are in the Railway Building, Minneapolis. E. W. Farnham, president, Chicago, Ill.; W. H. Crossland, vice president; F. B. Kidder, treasurer, Minneapolis; S. A. Carlisle, secretary, Wyoming, Minn.

ELECTRIC RAILWAY REVIEW October 12, 1907 Twin City & Lake Superior Railway of Wisconsin is incorporated in Wisconsin to build an electric railway from Minneapolis and St.Paul, Minn., to Superior, Wis., 130 miles. --- The Wisconsin articles provide for a road from Sunrise to Peet and from Foxboro to Superior. Capital stock $7,000,000. Incorporators: E. L. Peet, Grantsburg, Wis.; G.B.Haugan, Duluth, Minn.; F. R. Duxbury, St.Paul, Minn.; E. Lewis, Storm Lake, Iowa; Edward Henry, Minneapolis.

ELECTRIC RAILWAY REVIEW February 1, 1908 Smith & Jones of Minneapolis have been awarded a contract for clearing and grading for about 30 miles south of the Minnesota-Wisconsin state line near Foxboro. Last year grading was completed from Minneapolis to Sunrise, Minn., 38 ½ miles. Work under the new contract is to be started at once. E. W. Farnham is president and J. H. Thomas is chief engineer.

ELECTRIC RAILWAY JOURNAL April 13, 1908, mentioned the electric “Arrow Line” between Minneapolis-St.Paul and Duluth, 129 miles: two hours running time compared to the railroad’s five hours. Capital Stock: authorized $7,000,000; issued $2,500,000.

ELECTRIC RAILWAY JOURNAL March, 1909 Announcement is made that additional contracts are to be let about April 1 by this company . Contracts have been let as follows: from the lower St.Croix River to upper St.Croix, 33 miles, to Westerdahl & Carlson, and from upper St.Croix to Superior, Wis., 60 miles, to Smith & Jones. Track has already been laid from Minneapolis to Coon Lake, 25 miles. Two bridges will be constructed. J. H. Thomas, chief engineer, 440 Railway Building, Minneapolis.

THE BOND ISSUE is $4,000,000: First Mortgage 5 Per Cent—30 Year Gold Bonds, Dated October 1, 1909. Trustee: American Trust and Savings Bank of Chicago. Information from the prospectus:
Work Done The grading is practically completed on the first division—from Minneapolis Belt Line to the first crossing of the St.Croix, 40 miles, and about 10 miles of the heaviest grading completed, or nearly so, on the third division in Pine and Carlton counties, Minnesota. The right-of-way has also been cleared and grubbed on almost the entire third division from Foxboro to the northern crossing of the St.Croix River. The company owns inexhaustible gravel beds on its line at the first crossing of the St.Croix River, which cheaply solves the question of ballast.
Capital Stock The capital stock is $7,000,000, $1,000.000 of which is to be delivered to the Western Promotion and Improvement Company in full payment for all preliminary engineer work, profiles, etc., and the right-of-way for the whole line from the city limits of Minneapolis to the city limits of Superior-129 miles. $800,000 of the capital stock was sold under the former management to the Western Surety and Adjustment Company, which disposed of the same, by popular subscription, paying the net proceeds thereof, less a certain percentage, to the railway company, and the entire net proceeds have gone into grading.

MANAGEMENT CHANGE The bond prospectus (foregoing) mentions “former management”. It is also signed by L. N. Loomis, President, Twin City & Lake Superior Railway Company. Mr. Loomis was connected with the grain business and for about twelve years was engaged in the operation of several country elevators. In 1904 he disposed of those interests and established in Minneapolis the Loomis-Benson Company, grain commission dealers. He withdrew from this extensive and prosperous business in 1908 to accept the presidency of the railway. ELECTRIC RAILWAY JOURNAL June 26, 1909: J. H. Bradt has been elected vice-president of the TC&LS Ry., Minneapolis, to succeed W. H. Crossland.

ELECTRIC RAILWAY JOURNAL July 6, 1910 50 miles of roadway have been graded, some near Minneapolis-St.Paul and the remainder south of Holyoke, Minnesota. It will be a third-rail electric railroad from Minneapolis-St.Paul via Grantsburg, Wisconsin, to Superior, Wisconsin at 21st Street.

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[I had copied the following paragraphs from a county historical publication but I apparently neglected to identify the source.]

Promoted by the Western Land & Improvement Company, Minneapolis, this road was to run north from the Twin Cities crossing the Great Northern Railway at Stacy, then northeast across Chisago County to Sunrise, Minnesota, on the St.Croix River where a bridge would span the river valley. Entering Wisconsin the line would proceed to Grantsburg, then to the proposed town of Montgomery just west of Yellow Lake in Burnett County. The railroad would then continue back across the St.Croix River into Pine County entering at Crosby Township and then north through Ogema and to the Ojibway village on the Tamarack River in Wilma Township. From that point it would head north to the platted town of Duxbury, which was the railroad "headquarters". The Duxbury Village plat was located about two miles east of the present Duxbury community. After leaving the Duxbury depot the train would next stop at Whelans, a proposed village in Keene Township. Leaving Keene Township the line would continue into Park Township to the platted town of Silverton and future town of Otto. Entering Nickerson Township the line would veer to the northeast where Copper City was to be established and then into Carlton County and finally Superior,Wisconsin.

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Negative 11168	Location HE6.41p10
Negative 64504	Location HE6.41p11
Negative 81559	Location HE6.41p12

The captions state “Grading in Chisago or Pine Counties, A. M. Hawley Photos, 1907-1908”.

5-18-1907 ELECTRIC RAILWAY REVIEW

Twin City & Lake Superior Railway.—W. H. Crossland, vice-president, Minneapolis, writes that this company, whose incorporation was noted last week, will build a double-track third-rail electric line from Minneapolis and St. Paul, Minn., to Duluth, Minn., and Superior, Wis., 130 miles, of which 91 are in Minnesota and 39 in Wisconsin. The road will be practically an air line and will intersect no present towns or villages. Surveys have been made and grading is to begin on June 1. No general contracts are to be let. The road is to handle both freight and passengers. Maximum grade, 0.5 per cent; maximum curvature, 1½ degrees; weight of rail, 70 pounds. About 4,500 feet of steel will be required for the five principal bridges, although the company is not at present in the market for equipment. E. W. Farnham of Chicago, president; J. H. Thomas, Minneapolis, chief engineer. Headquarters, 345 Railway building, Minneapolis.

ELEC. RY. REVIEW 10-12-1907

Twin City & Lake Superior Railway, Minneapolis, Minn.—This company, recently incorporated to build a high-speed, third-rail interurban railway from St. Paul and Minneapolis to Duluth, Minn., and Superior, Wis., will begin the construction of the line at once. Preliminary surveys are now in progress. The line as proposed will be about 130 miles long and will be operated by steam until motive power for the equipment of the road with the Farnham inverted third-rail system can be installed. By the building of this line a reduction of 30 miles will be afforded in the present rail distance between the points named, and as the route chosen by the new company is the shortest possible one that physical conditions will permit, quick and efficient freight, passenger, mail and express business for the patrons of the road is assured. It is estimated that the road will cost $21,500 per mile, or a total of $2,775,500 when completed. The company is capitalized at $7,000,000, divided into 10,000 shares of $100 each. The executive offices of the company are in the Railway building, Minneapolis. E. W. Farnham, president, Chicago, Ill.; W. H. Crossland, vice-president; F. L. Kidder, treasurer, Minneapolis; S. A. Carlisle, secretary, Wyoming, Minn.

Twin Cities & Lake Superior Street Railway.—Incorporated in Wisconsin to build an electric railway from Minneapolis and St. Paul, Minn., to Superior, Wis., 130 miles. The company originally was incorporated under the laws of the state of Maine for the construction of this line under the name of the Twin City & Lake Superior Railway. The Wisconsin articles provide for a road from Sunrise to Peet and from Foxboro to Superior. Capital stock, $7,000,000. Incorporators: E. L. Peet, Gransburg, Wis.; G. B. Haugan, Duluth, Minn.; F. R. Duxberry, St. Paul, Minn.; E. Lewis, Storm Lake, Minn.; Edward Henry, Minneapolis. (Noted October 12, 1907.)

Twin City & Lake Superior Railway, Minneapolis, Minn.—Smith & Jones of Minneapolis have been awarded a contract for clearing and grading for about 30 miles south of the Minnesota-Wisconsin state line near Foxboro on the line from Minneapolis and St. Paul to Duluth and Superior, Wis., 129 miles. Last year grading was completed from Minneapolis to Sunrise, Minn., 38½ miles. Work under the new contract is to be started at once. E. W. Farnham is president and J. H. Thomas is chief engineer, both with headquarters in the Railway building, Minneapolis. (Noted February 1.) 1908

Twin City & Lake Superior Railway Co. (Arrow Line).—Incorporated Mar. 1, 1907. This company is constructing a double track, third rail, electric railway between Minneapolis and St. Paul, Minn., Superior, Wis., and Duluth, Minn., 129 miles long. The company reports that about 35 miles have been graded at the date of this report and it is expected the enitre road will be completed and in operation by July 1, 1909.

CAPITAL STOCK, authorized, $7,000,000, issued, $2,500,000; par value, $100 per share.

OFFICERS.—Pres. E. W. Farnham, Chicago, Ill., and Minneapolis, Minn.; V. Pres. W. H. Crossland, Minneapolis; Sec. S. A. Carlisle, Wyoming; Treas. F. B. Kidder, Minneapolis.

DIRECTORS.—E. W. Farnham, Chicago, Ill.; W. H. Crossland, F. B. Kidder, S. A. Carlisle, W. E. Foran, Minneapolis.

GENERAL OFFICE, 440 Railway Bldg., Minneapolis, Minn.

Date of information, Apr., 1908.

ERJ MARCH 1909

Twin City & Lake Superior Railway, Minneapolis, Minn.—Announcement is made that additional contracts are to be let about April 1 by this company for building a double-track, third-rail line from Minneapolis, Minn., northeast via St. Paul, Minn., and Superior, Wis., to Duluth, Minn., 130 miles. Contracts have been let as follows: From the lower St. Croix River to upper St. Croix, 33 miles, to Westerdahl & Carlson, and from upper St. Croix to Superior, Wis., 60 miles, to Smith & Jones. Track has already been laid from Minneapolis to Coon Lake, 25 miles. Two bridges will be constructed. J. H. Thomas, chief engineer, 440 Railway building, Minneapolis.

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may have been graded as far South as the present County road H 2 and Silver Lake Road

ERJ 6-26-1909: J. H. Bradt has been elected Vice Pres of the TC&LS Ry, Mpls., to succeed W. H. Crossland

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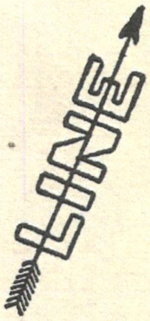
ARROW LINE MAKES PROGRESS

The Twin City & Lake Superior Railway Company which commenced work last year on a line between Minneapolis, Duluth and Superior is reported to have completed about 40 miles of grade ready for the steel and the final surveys made and right-of-way for the balance secured. The road will be 130 miles long and will use the Farnham protected underrunning third rail system. The Farnham Company, 140 Dearborn street, Chicago, is prominently identified with the construction of the road. ETW 3-19-1908

TWIN CITY & LAKE SUPERIOR RAILWAY CO.

DULUTH
130◎◎000
SUPERIOR



MINNEAPOLIS
600◎◎000
ST. PAUL

ELECTRICITY IS KING

Twin City & Lake Superior Railway Company

BETWEEN

Minneapolis and St. Paul

AND

Duluth and Superior

THIS LINE RUNS WHERE PEOPLE
WANT TO RIDE

Look at the Map

SALIENT POINTS

Private Right of Way.
Shortest Line.
Low Grade—Straight Track.
Few Bridges and Trestles.
Excellent Connections with Local Street Railways at Terminals.
Cheap Power.
Exceptional Earning Power as Shortest and Quickest Line Between Important Terminals.
Exceptional Certainty of Phenomenal Growth in Earnings.
Large Local Population Assured from Development of Rich Farming, Dairying, Stock, Grain, Hay, Fruit, and Truck Country.

EXISTING CONNECTIONS BETWEEN THE TWIN CITIES AND THE HEAD OF THE LAKES.

Northern Pacific	154 miles
Great Northern	160 miles
C., M. & St. P. & Omaha	187 miles

ARROW-LINE—BETWEEN STREET
140 Miles CAR CONNECTIONS 140 Miles

STEAM RAILWAYS ENTERING ST. PAUL AND MINNEAPOLIS WITHOUT LINES TO DULUTH AND SUPERIOR.

Minneapolis & St. Louis.
Iowa Central.
Chicago Great Western.
Illinois Central.
Rock Island.
"Soo."

STEAM RAILWAYS ENTERING DULUTH AND SUPERIOR WITHOUT LINES TO ST. PAUL AND MINNEAPOLIS.

Duluth, South Shore & Atlantic.
"Soo."
"Iron Range."
Wisconsin Central.

And practically Canadian Pacific and Canadian Northern.

DESCRIPTION.

Terminals
Character.
Curves.
Grades.
Bridges.
Comparative di tance.

The Arrow Line will connect St. Paul and Minneapolis with Duluth and Superior by a heavy electric track running for 90% of its course as straight as the crow flies, having no where a curve exceeding three degrees, over a grade not exceeding six-tenths of one per cent, with but four bridges of any moment on the whole line, and saving in distance from ten miles over the shortest present line to forty miles over the longest.

These closely packed facts mean success from a railway standpoint—straight track means higher speed, shorter distance, less power, and diminished danger from collision. Shorter distance means less time, less power, quicker service, and greater patronage. Low grades mean practically all this with greater carrying capacity. Harriman's vast expenditures on the Union Pacific in straightening track and reducing grade has made it the leader of leaders in railways with its stock now quoted around $200.

Equipment.
Speed.

This line will be equipped for passenger traffic with the latest approved type of electrical construction in all respects, and its "FLIERS" will make the distance between terminals running "EXPRESS" in from two and one-half to three hours, as against the four to six hours required by the steam railway lines.

Of course, local or accommodation trains will not reach this speed.

Terminal traffic arrangements

Negotiations (preliminary) have been had with THE TWIN CITY RAILWAY COMPANY, which controls and operates the local street railway line in the four cities, St. Paul, Minneapolis, Duluth and Superior, for the joint use of its tracks in any part of either city upon a mutually satisfactory basis.

Power.

Power can be obtained at very advantageous terms from the Great Northern Power Company at Duluth, which now has machinery installed capable of developing 30,000 H. P., of which it is now selling approximately one-half; the maximum obtainable with its present development is in the neighborhood of 50,000 H. P., with a potential capacity for ultimate development probably second only to Niagara. There are two other large electric power producing companies near the line, which insures power at approximately one-half the cost of electric power when generated by steam, as is the case in the great majority of electric lines. There is also an opportunity for a great hydraulic plant near the line. The tendency to buy power rather than produce it is evidenced by the fact disclosed by the advance sheets of the new census, that while the trackage (electric) has increased since 1902, 52 4-10%, the number of passengers carried 63 3-10%, the number of cars 25 2-10%, and the income 71 6-10%, the number of power houses has only increased 2 7-10%. The power demand of an electric line being mostly in the daytime, is a bonanza to an electric power company, as it equalizes the load, even if the price is low. It takes power when the local demand is least.

Freight.

Whether its freight trains will be operated by steam or electricity will be determined by the test of experience as to relative cheapness and convenience.

Terminal population.

St. Paul. Minneapolis.

St. Paul and Minneapolis have approximately an aggregate population of 600,000 and are both growing rapidly and developing tremendously along all lines. No one doubts that their growth will be at least 4% a year, which will give a population of approximately a million in 1925.

Growth.

Business relations.

Traffic.

Together they constitute the gate-way to the products of the great Northwest by rail, as do Superior and Duluth by water. The business and commercial affiliations between the four cities are close and permanent, and the traffic, both freight and passenger, between them is enormous.

Duluth. Superior.

Growth.

Industrial enterprises.

Duluth and Superior jointly have approximately 130,000 people and will double this population in ten years, if not in five. The railway, industrial and building enterprises now contemplated and under construction there aggregate, including the new steel plant, over forty millions of dollars.

Iron. Steel.

They lie at the edge of the greatest iron deposit in the world, which the new steel plant, with the iron industries sure to spring up in connection with it, will aid in utilizing.

Ship building.

The American Ship Building Plant constructs boats larger than the largest ocean liners of a few years since.

In the language of the Wisconsin State Board of Immigration, paraphrasing the celebrated speech of Proctor Knott, "Duluth and Superior promise to become the Zenith Twins of the unsalted sea. * * * Duluth and Superior are the greatest shipping port in the world, and are now about to outgrow their own greatness."

Intervening territory.

A glance at the map shows that the "ARROW LINE" opens up a new territory from twenty to forty miles in width between the existing steam lines. The south half of this to the northern crossing of the St. Croix is through a well settled general farming country. The north half will open up and develop a rich hardwood timber district, which soon after the advent of the road will be converted into small dairy, hay, grain, truck, and fruit farms. It is pre-eminently "THE LAND OF THE BIG RED CLOVER," hay cutting two to five tons, and potatoes yielding two hundred to four hundred bushels per acre. A view of the farms around Pine City, which are held $60.00 to $100.00 an acre, shows exactly what this territory will be when opened up by this railway. It has the essentials of wealth and prosperity, GOOD CLIMATE—GOOD WATER—GOOD FUEL—AND TIMBER—GOOD SOIL—AND GOOD MARKETS—NO DROUTHS, NO HOT WINDS, NO CYCLONES. Such a country will yield in traffic, both freight and passenger, more than three times as much as a similar area of wheat or cattle country, and even in the course of settlement in the northern half the timber land will furnish enough lumber and other timber products for thirty carloads of freight a day for ten years. This is based on timber examiners' reports, which include over a hundred million feet of hardwood lumber alone, to say nothing of pine, spruce, tamarac, and other valuable lumber, besides cordwood, ties, poles and posts. The capabilities of this area are fully set forth in the pamphlet just issued by the Minnesota Board of Immigration entitled "The Timberlands of Northern Minnesota." Hon. Henry

Wallace, of the Roosevelt Farm Condition Investigating Committee, in traveling over the country last year, said:

> "The cut-over lands of Minnesota and Wisconsin are the only part of the United States today for the man with small means and willing to work to acquire a competence for himself and family."

Minnesota is a rich country; the banks are well supplied with money, and wealth is rapidly increasing. The Monitor says: "Farmers' profits on the Minnesota and South Dakota wheat crop this year are forecasted in excess of three hundred millions, or one hundred and sixty-five millions more than last year," and that profits on other crops will be proportionate. There are but few towns along the line, Grantsburg, with about a thousand people, being the largest, but with the advent of this line villages will spring up almost in a night.

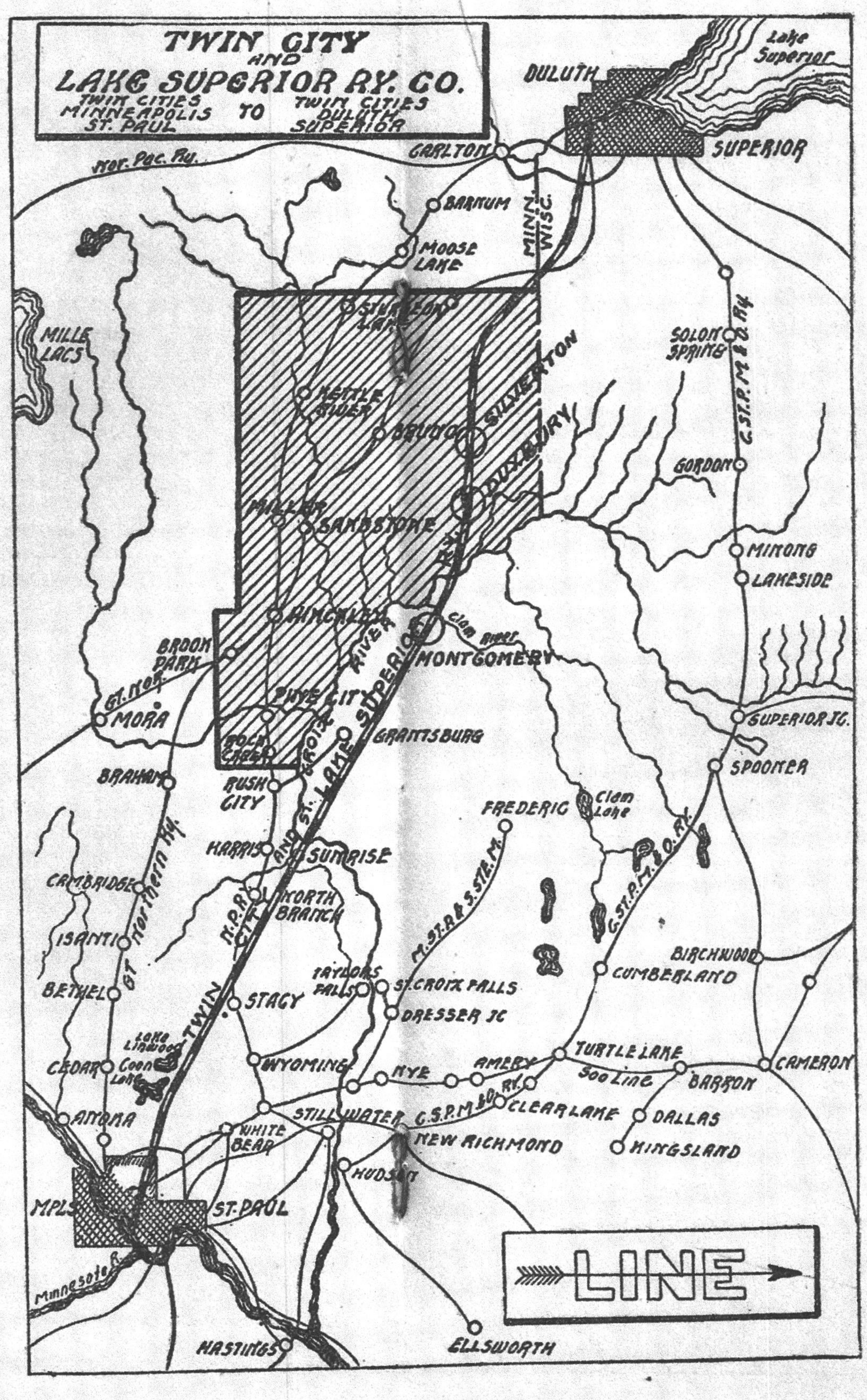
Earning capacity.

The Ideal Inter-Urban is an express line between large terminals. The thirty-three mile line between Dallas and Fort Worth, Texas, is a good illustration. The project was disapproved because the line was parallel to the Texas Pacific all the way and there was no intervening population along the line, and apparently not such a terminal population—60,000 in Dallas and 40,000 in Fort Worth—as to furnish sufficient patronage, but it has proved one of the best paying lines ever built. Its cars run every half hour, from either terminal, and are always crowded, and it has paid from 10 to 12% upon a very liberal estimated cost, and its receipts are rapidly increasing.

The Arrow Line is longer, but the terminal population is seven times as great. The business affiliations of the terminals the same, and it does not parallel any existing line, but opens up a new district by a shorter line and lower grade.

Passenger estimates from terminal business.

The three steam lines run in the aggregate eight passenger trains each way daily with as nearly as can be ascertained from the data at hand at least an average of a hundred passengers per train—about $4,800.00 per day. If the rule that an Inter-Urban will get from 40 to 60% of a passenger traffic be-


TWIN CITY AND LAKE SUPERIOR RY. CO.
TWIN CITIES MINNEAPOLIS ST. PAUL TO TWIN CITIES DULUTH SUPERIOR
Lake Superior
DULUTH
SUPERIOR
CARLTON
Nor. Pac. Ry.
BARNUM
MOOSE LAKE
MINN. WISC.
STURGEON LAKE
MILLE LACS
KETTLE RIVER
BRUNO
SILVERTON
DUXBURY
MILLER
SANDSTONE
HINCKLEY
Clam River
MONTGOMERY
BROOK PARK
GT. NOR.
MORA
PINE CITY
ROCK CREEK
GRANTSBURG
BRAHAM
RUSH CITY
TWIN CITY AND ST. LAKE SUPERIOR
ST. CROIX RIVER
HARRIS
SUNRISE
NORTH BRANCH
N.P. RY.
CAMBRIDGE
Great Northern Ry.
ISANTI
BETHEL
STACY
TAYLORS FALLS
ST. CROIX FALLS
DRESSER JC
Lake Linwood
Coon Lake
CEDAR
ANOKA
WYOMING
NYE
AMERY
TURTLE LAKE
Soo Line
BARRON
CAMERON
CLEAR LAKE
C.S.P.M. & O. RY.
STILLWATER
WHITE BEAR
NEW RICHMOND
DALLAS
KINGSLAND
HUDSON
MPLS
ST. PAUL
Minnesota R.
HASTINGS
ELLSWORTH
FREDERIC
Clam Lake
M. ST. P. & S. STE. M.
C. ST. P. M. & O. RY.
CUMBERLAND
BIRCHWOOD
SPOONER
SUPERIOR JC.
MINONG
LAKESIDE
GORDON
SOLON SPRING
C.ST.P.M.&O.RY.
LINE

tween terminals be applied, this would yield from $1,920.00 to $2,680.00 per day, or upon the estimate that 1-10 of 1% of the terminal population will make on the average a trip each day, which is equivalent to the entire population averaging a trip about in three years, the daily income would be over $2,000.00 at the start from the terminal business alone, and this will grow with the growth of the terminals.

Operating cost—Net.

By reason of the low power cost the expenses wil not exceed 50%, excluding taxes which are 4% of the gross revenue. This would pay interest on the bonded debt, operating expenses and taxes, and leave a handsome sum for dividend on the stock.

Local traffic Passenger

This does not take into account the local passenger traffic. Any one familiar with inter-urban knows how rapidly population fills in and villages spring up along such lines. This is especially true in a country adapted to small farming as compared with wheat and cattle lands.

Express

The express business on this line running between such important terminals and through a dairy and truck region will be very large and profitable.

Such lines have only recently entered this field, but the advanced census sheet shows that the increase in electric earnings outside of passenger carriage has advanced 291 7-10% since 1902.

Freight.

This line opening up a new and rich territory will without competing with existing lines pay as a freight line from the start. Of course it will act from the first also as a "feeder" for other lines, and can be operated at night after the electric cars have ceased running on passenger business. It crosses the Belt Line in Minneapolis and the new belt line of the Steel Company in Superior, which gives excellent transfer facilities until it acquires its own freight terminals. It will also undoubtedly make traffic arrangements with existing lines between the terminals, which have no lines of their own between them.

Cost per mile.

The cost of this line per mile as a steam line to the top of the rail without equipment is approximately $15,000.00, and the cost of

Cost of electrical equipments.

Terminals and extensions.

the electrical equipment and construction complete will be $7,525.00 per mile more. The bond issue covers all the property of the company now owned or to be acquired, and the trust deed provides for the issuance of additional bonds up to 90% of the cost of additional extensions and terminals with equipment therefor; all of said bonds to be of the same character and priority.

Percentage of earnings anticipated.

It is believed that the business will require a double track before the end of the first five years, and much of the grading done is for double track. Judging from other inter-urbans much less favorably situated as to size of terminals, opening up new territory, shortness of line, and freedom from curves, and steep grades, as well as prospective tremendous development, it is believed this line will earn 10% net on the investment at an early date.

Organization incorporation.

The Twin City and Lake Superior Railway Company is a Maine corporation fully authorized to do business in Minnesota. It will also control the stock and bonds of the Twin City and Lake Superior Railway Company of Wisconsin, which is organized as required by the laws of that state to build and operate that part of the Arrow Line lying within the state of Wisconsin.

Capital stock.

The capital stock is $7,000,000.00, $1,000,000.00 of which is to be delivered to the Western Promotion and Improvement Company in full payment for all preliminary surveys, preliminary engineer work, profiles, etc., and the right of way for the whole line from the city limits of Minneapolis to the city limits of Superior—129 miles—$800,000.00 of the capital stock was sold under the former management to the Western Surety and Adjustment Company, which disposed of the same by popular subscription, paying the net proceeds thereof, less a certain percentage, to the railway company, and the entire net proceeds have gone into grading.

Work done.

Engineering, etc.

Grading.

All surveys, profiles, maps, estimates, etc. have been completed showing the character and cost of every foot of the line and every bridge and culvert thereon. The grading is practically completed on the first division—from Minneapolis Belt Line to the first crossing of the St. Croix, forty miles, and about 10 miles of the heaviest grading completed, or nearly so, on the third division in Pine and Carlton counties, Minnesota, and the right of way has also been cleared and grubbed on almost the entire third division from Foxboro to the Northern Crossing of the St. Croix river.

Clearing and Grubbing.

Ballast.

The company owns inexhaustible gravel beds on its line at the first crossing of the St. Croix river, which cheaply solves the question of ballast.

Subsidiary Wisconsin company.

The Twin City and Lake Superior Railway Company of Wisconsin has been incorporated to build the part of the line in Wisconsin and the required "permit of necessity" obtained from the Wisconsin Railway Commission. This permit, however, will need a slight change because of a slight change in the original survey now taking the line through the village of Grantsburg, but this is obtainable as a matter of course.

The stock and bonds of the Wisconsin Company will be owned and controlled by this company, and hence will be covered by the proposed bond issue.

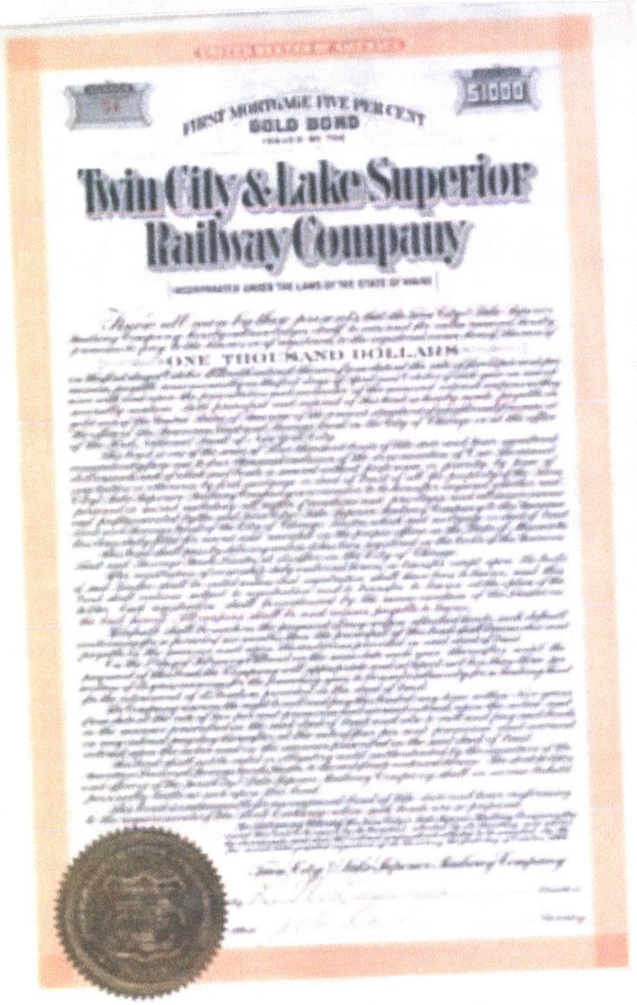
Offices.

The offices of this company are in Minneapolis, where all its books, papers, maps, surveys, profiles, estimates, etc. are located, and from which point the work done on the line can be most readily reached.

For further information address,

President.

L. N. LOOMIS,
President Twin City & Lake Superior Railway Company,
Minneapolis, Minn.



$1000

FIRST MORTGAGE FIVE PER CENT
GOLD BOND
ISSUED BY THE

Twin City & Lake Superior
Railway Company

INCORPORATED UNDER THE LAWS OF THE STATE OF MAINE

ONE THOUSAND DOLLARS

THE BOND ISSUE

IS

$4,000,000

First Mortgage 5 Per Cent--30 Year Gold Bonds

Dated Oct. 1, 1909--Due Oct. 1, 1939

Denominations $1,000

Interest Payable April 1 and October 1

TRUSTEE

American Trust and Savings Bank
Of Chicago

INTEREST PAYABLE AT

American Trust and Savings Bank
Chicago
First National Bank, New York City

Copies of Trust Deed May be Had by
Application to

L. N. LOOMIS

President Twin City & Lake Superior Railway
Company, Minneapolis, Minnesota

TWIN CITY AND LAKE SUPERIOR RY.—Incorporated March 1, 1907, under the laws of Maine, to construct an electric road between Minneapolis and St. Paul, Minn., Superior, Wis., and Duluth, Minn., a distance of 137.0 miles. Graded to June 30, 1913, 50.0 miles. Road not yet in operation.

Capital Stock.—Authorized, $7,000,000; outstanding, June 30, 1913, $1,400,000. Shares, $100. Annual meeting, 1st Tuesday in September, at Portland, Me.

Funded Debt outstanding, June 30, 1913: $85,000 1st mtge. 30-yr. 5s, due Oct. 1, 1939, nterest April and Oct. 1, at office of the trustee, Continental and Commercial Trust and Savings Bank, Chicago, Ill. and First National Bank, New York, N. Y. Coupon bonds, $1,000, principal may be registered. Subject to call at 104. Authorized, $4,000,000, of which $85,000 issued to provide funds for construction, etc.

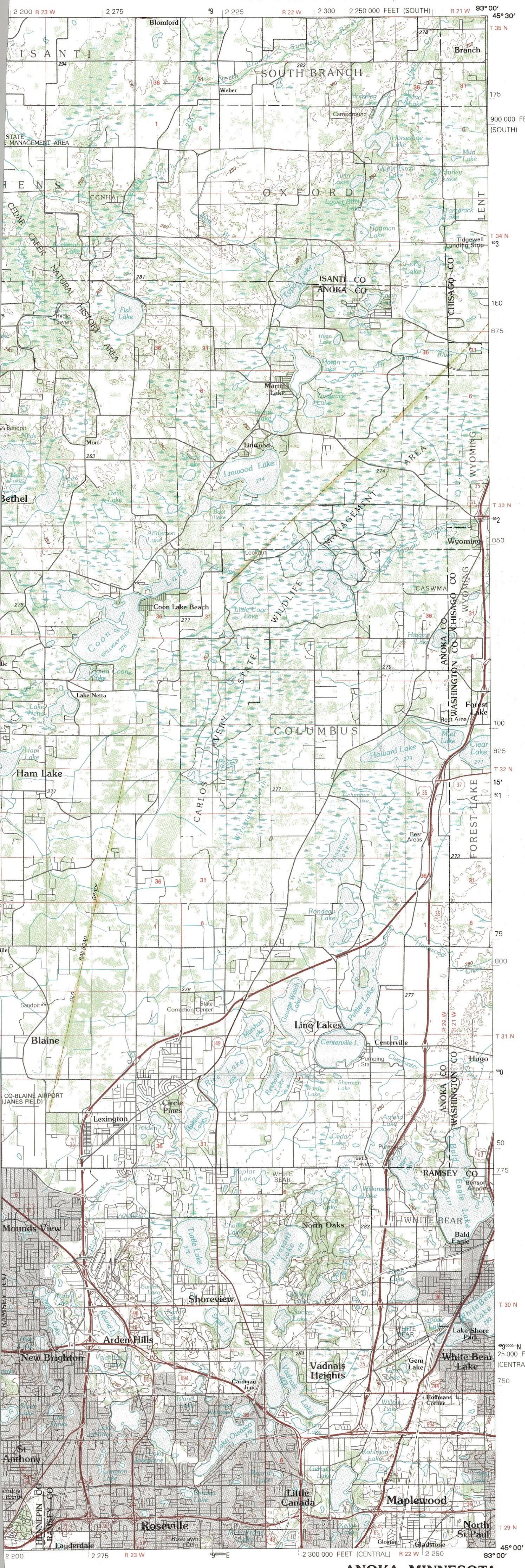
Interest on above bonds payable after deduction of normal United States Income Tax.

Directors.—L. N. Loomis, E. E. Sidnam, F. A. Griswold, M. J. Renshaw, P. N. Loomis, Minneapolis, Minn.; J. H. Bradt, Rockwell City, Ia.; N. C. Towne, Des Moines, Ia. **Officers:** L. N. Loomis, Pres., Minneapolis, Minn.; J. H. Bradt, Vice-Pres., Rockwell City, Ia.; P. N. Loomis, Sec. and Treas., Minneapolis, Minn. Office, Minneapolis, Minn.

TC&LS Ry

Louis N. Loomis obtained his education as a public school student of Chatfield, Minnesota, and after preparing for law practice was admitted to the bar in South Dakota in 1886, successfully following his profession in that state for a time. In 1888 he founded the Bank of Alpena at Alpena, South Dakota, which he conducted for fourteen years. During this period he further extended the scope of his activities by becoming connected with the grain business and for about twelve years was engaged in the operation of several country elevators. In 1904 he disposed of these interests and established in Minneapolis the Loomis-Benson Company, grain commission dealers, of which he became the president, with B. F. Benson as vice president and M. J. Renshaw as secretary. As the active head of the firm he developed an extensive and prosperous business, but withdrew therefrom in 1908 to accept the presidency of the Twin City & Lake Superior Railway Company. His connection with any undertaking insured a prosperous outcome of the same, for it was in his nature to carry forward to successful completion whatever he was associated with. He carefully and wisely directed his activities, and the soundness of his judgment was manifest in what he accomplished.

30 X 60 MINUTE SERIES (TOPOGRAPHIC)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Weber
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CEDAR CREEK NATURAL HISTORY AREA
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ISANTI CO
ANOKA CO
CHISAGO CO
Martin Lake
Linwood
Linwood Lake
Mort
Bethel
Coon Lake Beach
Coon Lake
CARLOS AVERY STATE WILDLIFE MANAGEMENT AREA
Wyoming
WYOMING
CASWMA
COLUMBUS
ANOKA CO
WASHINGTON CO
Forest Lake
Howard Lake
Clear Lake
FOREST LAKE
Ham Lake
Lake Netta
Rest Areas
Blaine
State Correction Center
Lino Lakes
Centerville
Hugo
CO-BLAINE AIRPORT (JANES FIELD)
Lexington
Circle Pines
Rice Lake
RAMSEY CO
WHITE BEAR
Bald Eagle
Mounds View
North Oaks
Shoreview
Arden Hills
New Brighton
Vadnais Heights
Gem Lake
White Bear Lake
Lake Shore Park
St Anthony
Little Canada
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Roseville
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ANOKA, MINNESOTA

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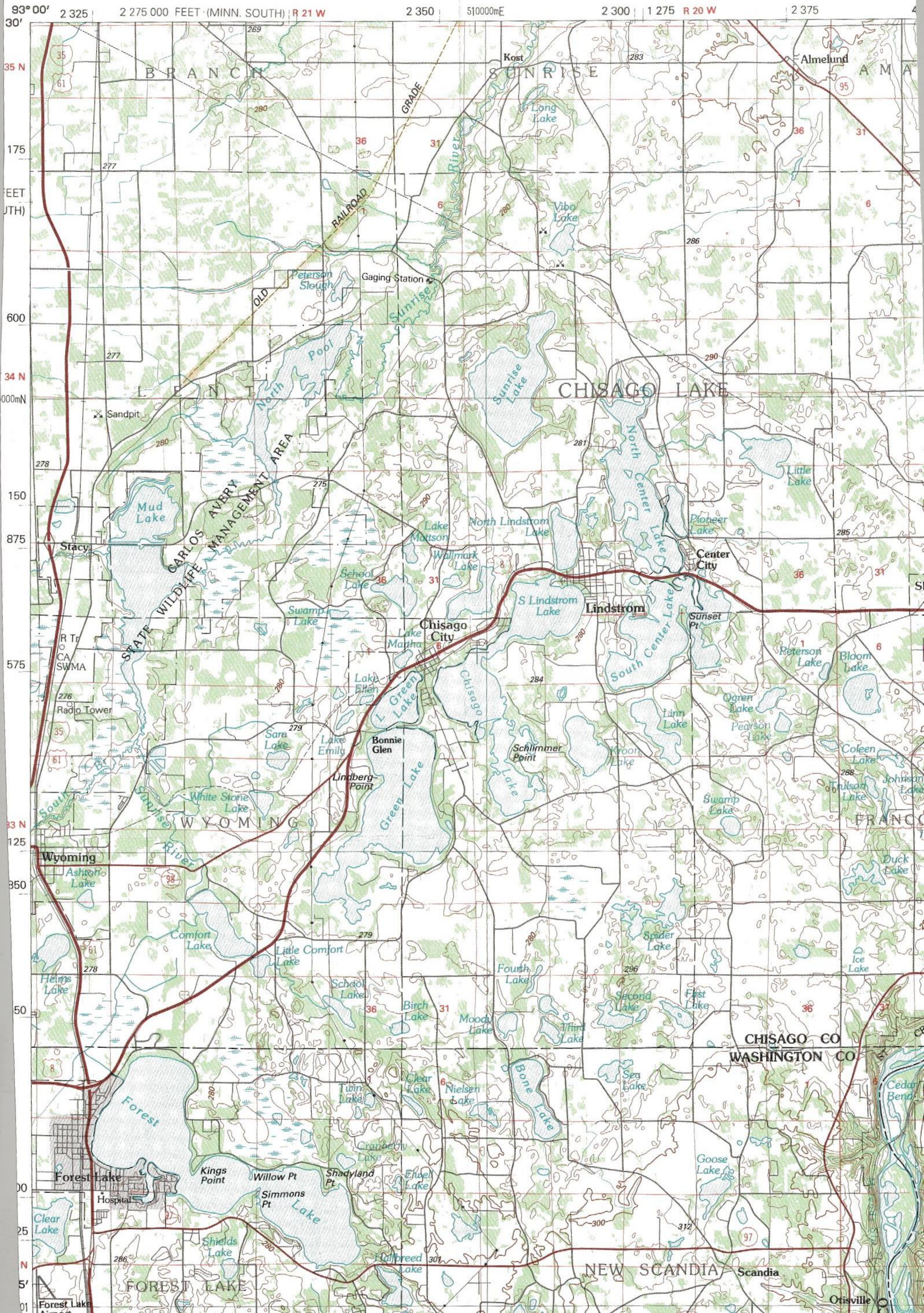
STILLWATER, MINNESOTA–WISCONSIN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Vibo Lake
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Gaging Station
Sunrise River
North Pool
Sunrise Lake
LENT
CHISAGO LAKE
Sandpit
CARLOS AVERY STATE WILDLIFE MANAGEMENT AREA
Mud Lake
Stacy
North Center Lake
Little Lake
Pioneer Lake
North Lindstrom Lake
Lake Mattson
Wallmark Lake
School Lake
Center City
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Sunset Pt
Swamp Lake
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Lake Martha
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Radio Tower
Lake Ellen
L Green Lake
Chisago Lake
Linn Lake
Ogren Lake
Pearson Lake
Sara Lake
Lake Emily
Bonnie Glen
Lindberg Point
Schlimmer Point
Kroon Lake
Coleen Lake
Trulson Lake
Johnson Lake
Green Lake
White Stone Lake
WYOMING
Swamp Lake
FRANCO
Wyoming
Ashton Lake
Duck Lake
Comfort Lake
Little Comfort Lake
Spider Lake
Helms Lake
School Lake
Fourth Lake
Ice Lake
Birch Lake
Moody Lake
Second Lake
First Lake
Third Lake
CHISAGO CO
WASHINGTON CO
Forest Lake
Clear Lake
Twin Lake
Nielsen Lake
Bone Lake
Sea Lake
Cedar Bend
Cranberry Lake
Goose Lake
Forest Lake
Kings Point
Willow Pt
Shadyland Pt
Elwell Lake
Hospital
Simmons Pt
Clear Lake
Shields Lake
Hallbreed Lake
NEW SCANDIA
Scandia
FOREST LAKE
Forest Lake Airport
Otisville
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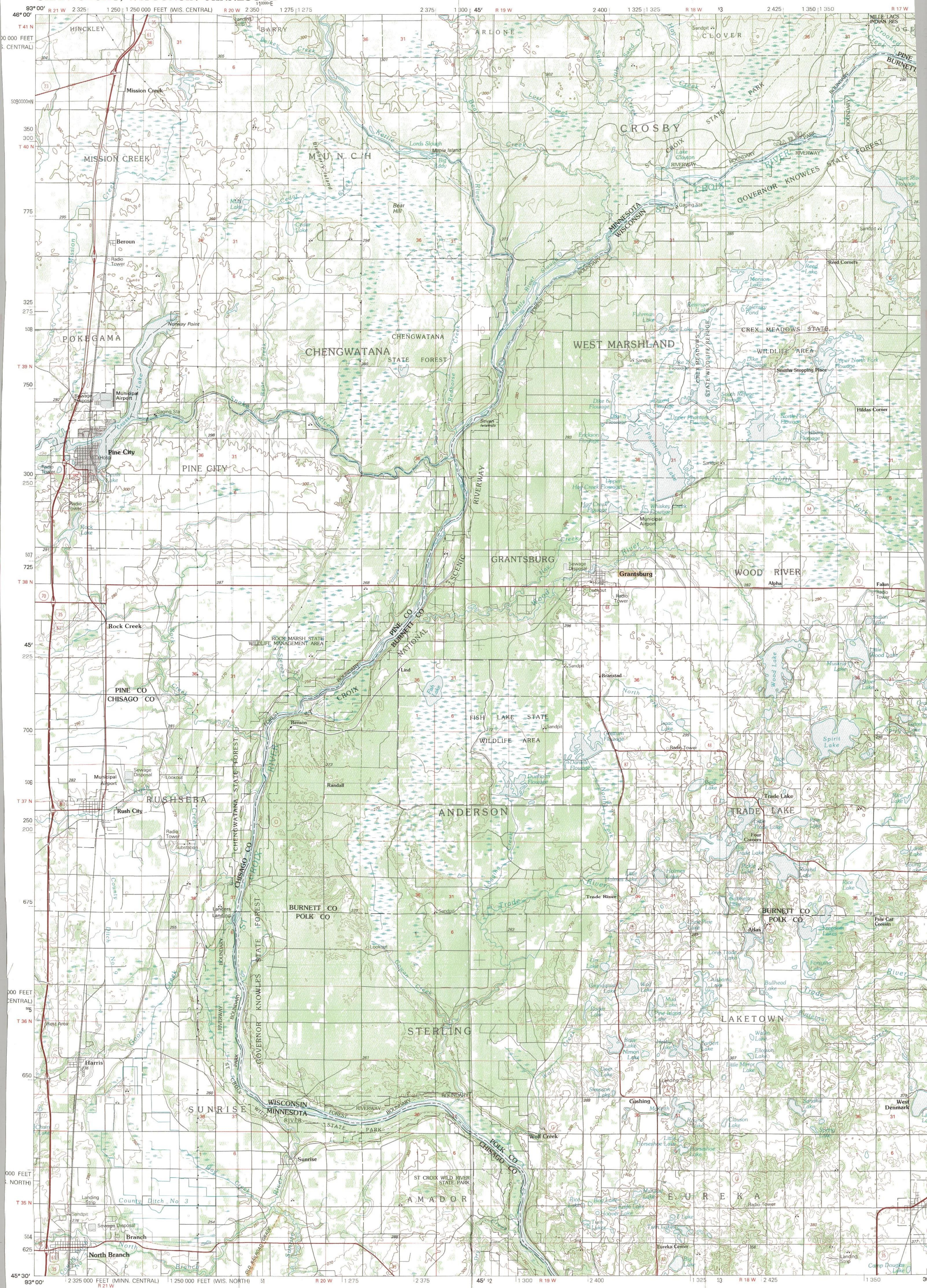
GRANTSBURG, WISCONSIN–MINNESOTA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BARRY
ARLONE
CLOVER
MILLE LACS INDIAN RES
CROSBY
MISSION CREEK
Mission Creek
MUNCH
Maple Island
Lords Slough
Bear Hill
Beroun
ST CROIX STATE PARK
GOVERNOR KNOWLES STATE FOREST
MINNESOTA
WISCONSIN
Gaging Sta
Reed Corners
POKEGAMA
Norway Point
CHENGWATANA
CHENGWATANA STATE FOREST
WEST MARSHLAND
CREX MEADOWS STATE WILDLIFE AREA
Smiths Stopping Place
Hildas Corner
Municipal Airport
Pine City
PINE CITY
Snake River
Cross Lake
Seven Islands
Phantom Lake
GRANTSBURG
Grantsburg
WOOD RIVER
Alpha
Falun
Rock Creek
ROCK MARSH STATE WILDLIFE MANAGEMENT AREA
PINE CO
BURNETT CO
NATIONAL SCENIC RIVERWAY
CHISAGO CO
Lind
Branstad
FISH LAKE STATE WILDLIFE AREA
Benson
Randall
RUSHSEBA
Rush City
ANDERSON
TRADE LAKE
Trade Lake
Four Corners
Spirit Lake
Landers Landing
POLK CO
Trade River
Atlas
Pole Car Crossin
CHENGWATANA STATE FOREST
GOVERNOR KNOWLES STATE FOREST
STERLING
LAKETOWN
Harris
SUNRISE
Sunrise
Cushing
Wolf Creek
West Denmark
ST CROIX WILD RIVER STATE PARK
AMADOR
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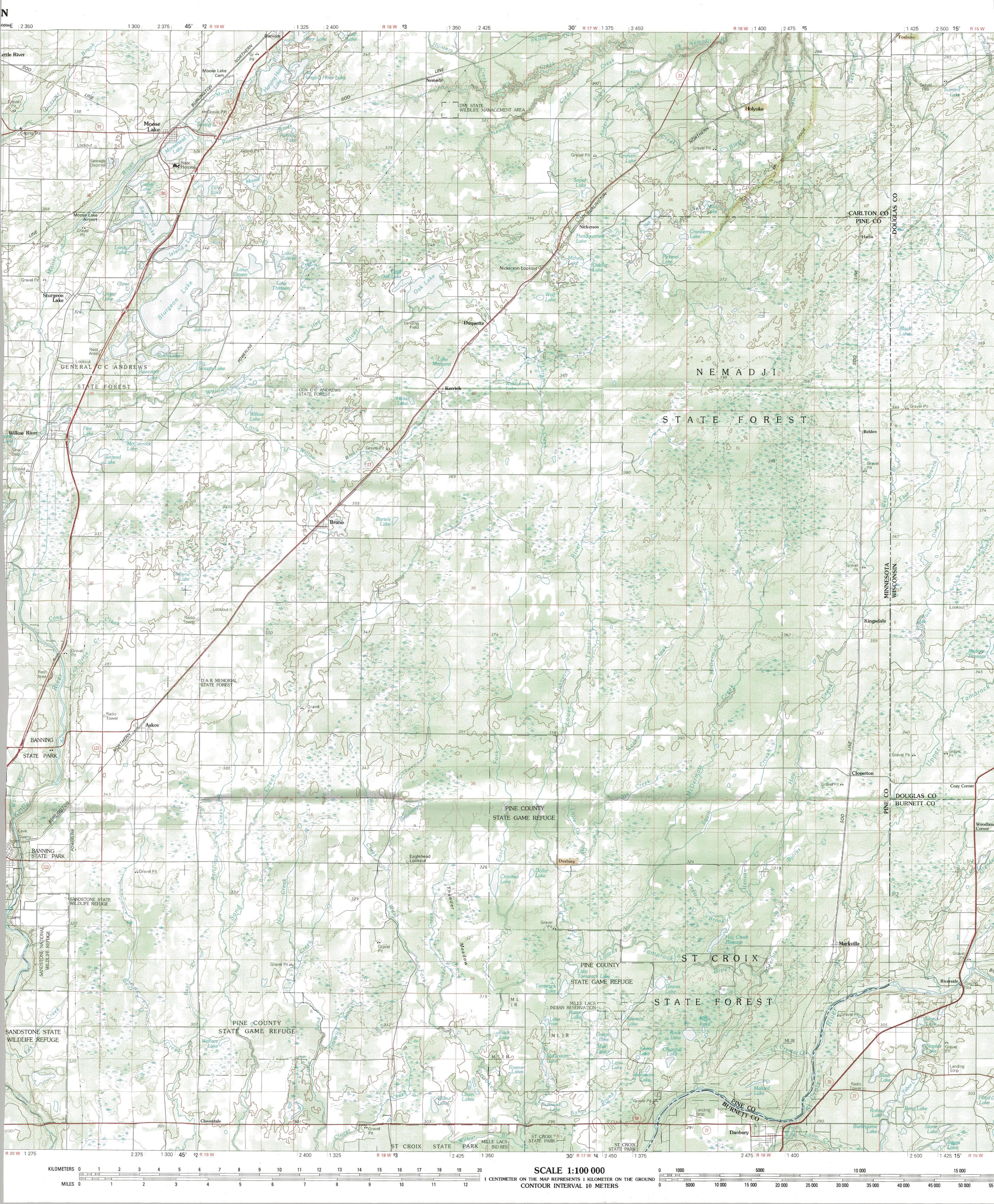
INTERIOR—GEOLOGICAL SURVEY, RESTON, VIRGINIA—1991

SCALE 1

1 CENTIMETER ON THE MAP REPRESE

CONTOUR INTERV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Barnum
Moose Lake
Moose Lake Cem
State Hospital
Moose Lake Airport
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Holyoke
Nickerson
Nickerson Lookout
Headquarters Lake
Sturgeon Lake
Island Lake
Lake Eleven
Lake Thirteen
Oak Lake
Duquette
Landing Field
GENERAL C C ANDREWS STATE FOREST
GEN C C ANDREWS STATE FOREST
Kerrick
Lake Margaret
Willow River
First Lake
Second Lake
McCormick Lake
NEMADJI STATE FOREST
CARLTON CO
PINE CO
DOUGLAS CO
Belden
Bruno
Bartels Lake
Kingsdale
MINNESOTA
WISCONSIN
D A R MEMORIAL STATE FOREST
Askov
BANNING STATE PARK
Radio Tower
Cloverton
Cozy Corner
DOUGLAS CO
BURNETT CO
PINE CO
Woodland Corner
PINE COUNTY STATE GAME REFUGE
Eaglehead Lookout
Duxbury
Crooked Lake
Dollar Lake
SANDSTONE STATE WILDLIFE REFUGE
SANDSTONE NATIONAL WILDLIFE REFUGE
Markville
ST CROIX STATE FOREST
Riverside
MILLE LACS INDIAN RESERVATION
Landing Strip
Danbury
Cloverdale
ST CROIX STATE PARK
MILLE LACS IND RES
R 20 W
R 19 W
R 18 W
R 17 W
R 16 W
R 15 W
45′
30′
15′

SCALE 1:100 000

1 CENTIMETER ON THE MAP REPRESENTS 1 KILOMETER ON THE GROUND

CONTOUR INTERVAL 10 METERS

View Showing Small Construction Crew at Work on Section of Twin City & Lake Superior Railway Co.'s Road-Way.

THE GREAT DUXBURY LOT SALE.

It has been clearly demonstrated within the last six months that an investment in town lots is a safe and sure investment. Parties who purchased lots along the new Railroad Extensions in South Dakota have realized an enormous profit on their investment and in many instances have more than ten times doubled their money.

The same opportunities are presented to you again in the sale of town lots in the town of Duxbury on the now building Twin City and Lake Superior Railroad, "The Arrow Line", the new double track, electric, third rail system, between the Twin Cities, Minneapolis and St. Paul and the head of the Great Lakes.

This new electrical wonder traverses a section of country wonderfully rich in natural resources and is destined to be the most densely populated section of this wonderful state. This road does not strike a village, city or hamlet from the time it leaves the city limits of the Twin Cities until it reaches the city limits of Duluth and Superior. In consequence of this fact, the opportunity for new towns along its line is especially inviting.

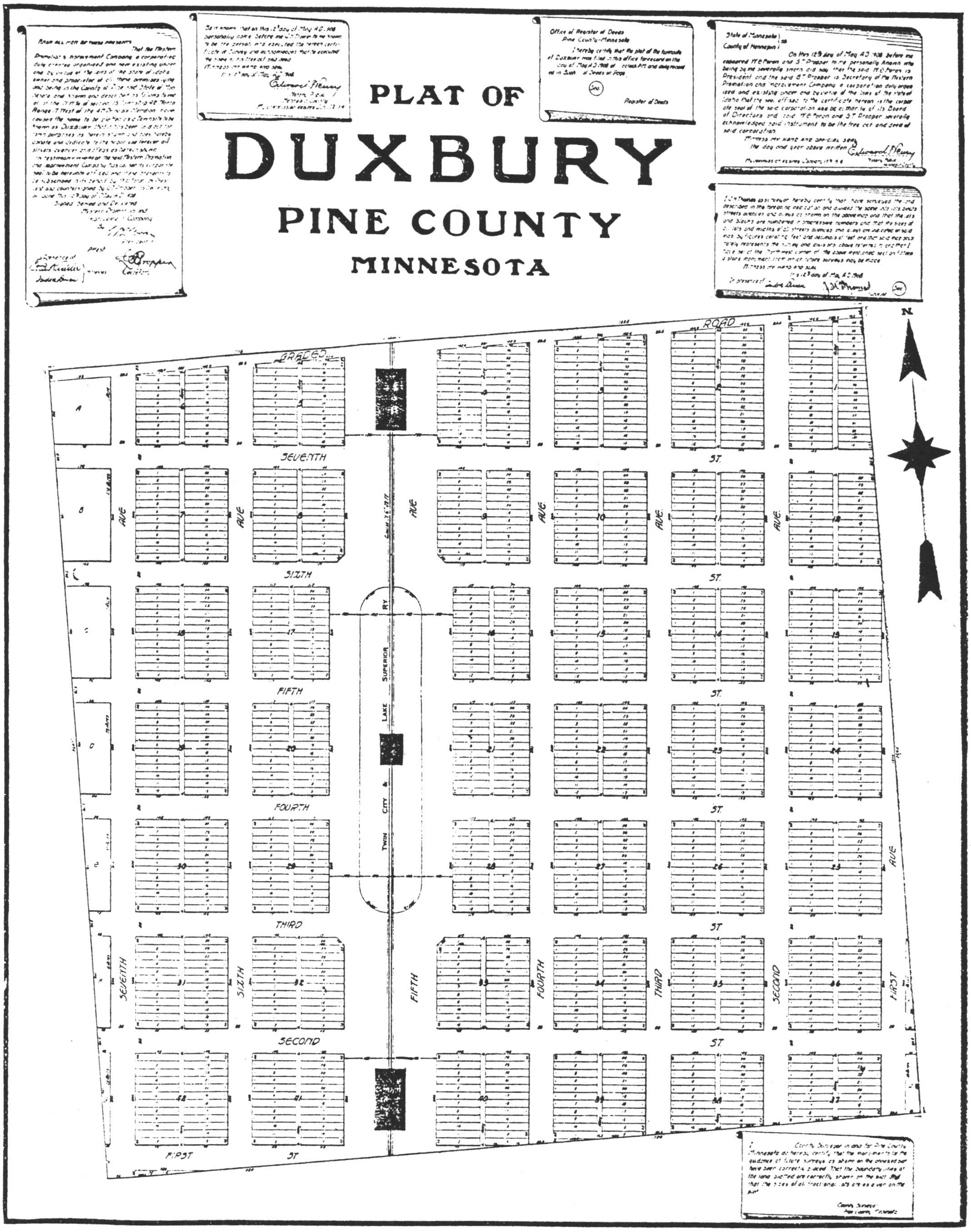
Duxbury is located in Pine County, only a few minutes' ride from the open markets of the world. Why then should it not be a magnificent city, situated as it is almost midway between four cities that have a combined population of nearly a million people?

These lots can be bought for small down payments, on long time, at low interest. Deed or contract with abstract of title will be furnished with each sale, permiting purchaser to handle his own title in manner best suiting his purposes and desires.

For further information, advertising matter or plats address

WESTERN PROMOTION & IMPROVEMENT COMPANY
LAND AND TOWNSITE DEPARTMENT
Twin City & Lake Superior Railway Company
345 Railway Building, Minneapolis, Minn.

MHS


PLAT OF
DUXBURY
PINE COUNTY
MINNESOTA
GRADED ROAD
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SIXTH ST
FIFTH ST
FOURTH ST
THIRD ST
SECOND ST
FIRST ST
SEVENTH AVE
SIXTH AVE
FIFTH AVE
FOURTH AVE
THIRD AVE
SECOND AVE
FIRST AVE
TWIN CITY & LAKE SUPERIOR RY
A
B
C
D
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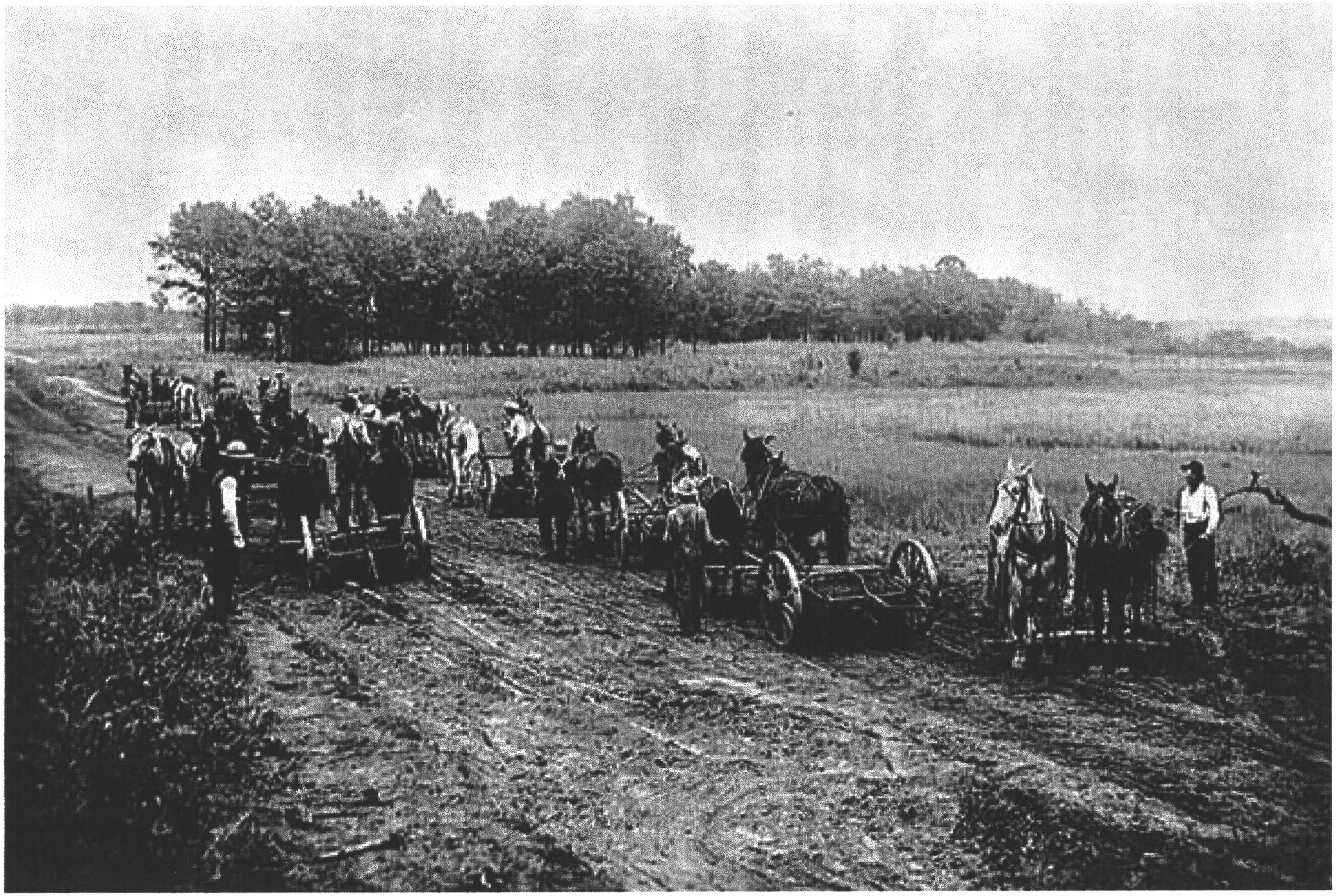
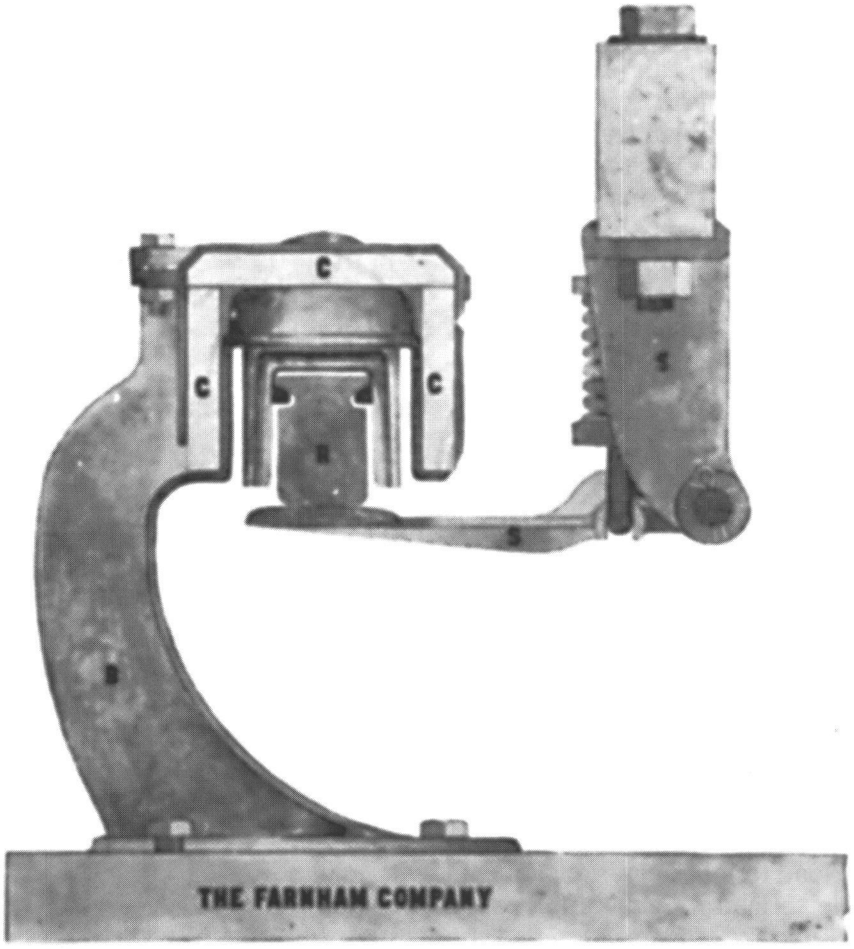


WILL USE THE FARNHAM THIRD RAIL.

After long and careful consideration, the Farnham protected Third Rail has been adopted for the Chicago-New York Electric Air Line Railroad, for transmission of power, except of course on the lateral lines running into county seats and other important towns, where the trolley system will have to be used. Necessary contracts for the rail have been made with the Farnham Company, of 140 Dearborn street, Chicago. This system is in use on the New York Central Railroad throughout its zone of electrification. The view here given represents a sectional view of the rail and its protecting covers.



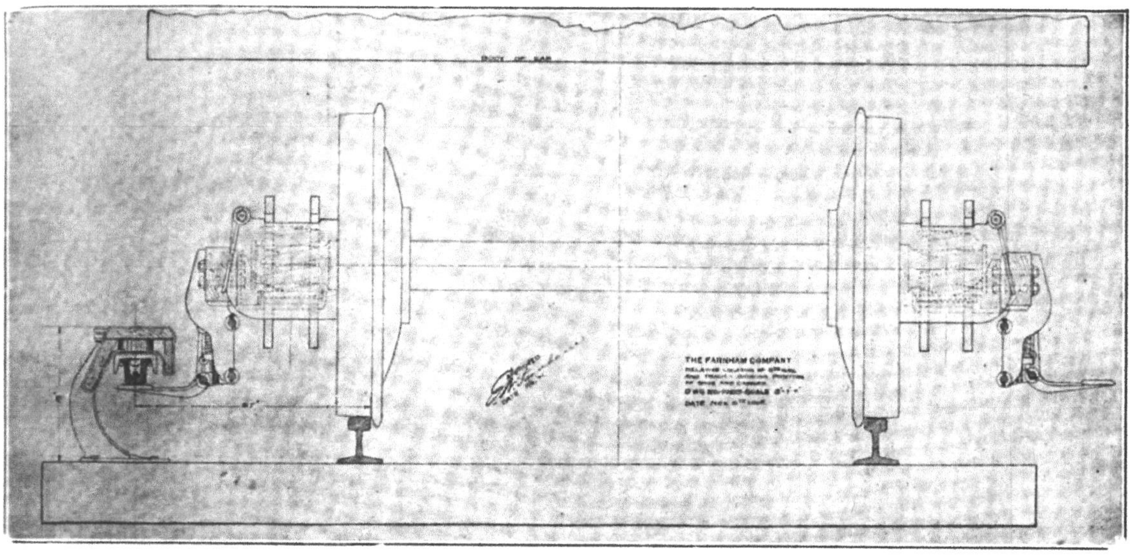
"B" is the support bracket carrying the rail or electric feeder "R" and cover boards "C. C. C." "S. S." is the electric collector shoe and carrier, which is attached to the moving car. The lower arm extends horizontally, slides along the underside of the protected third rail, and the electric power is thereby communicated to the several cars and electric motors thereupon.

This protected third rail is placed along the track rails, the brackets being securely fastened to the ends of the ties, in a parallel line with the track and located a suitable distance outside of the track to accommodate all freight and passenger clearances. After being thoroughly erected and absolutely insulated from the brackets and all contact as above described, the cover boards, consisting of two sides and one top, are placed in the brackets and fastened thereto by the use of the cover-lock and one bolt at the back of each bracket, as shown in the illustration.

Being only fifteen inches from the top of the tie to the top of the cover, and but nine inches from the tie to the bottom of the third rail, it is absolutely impossible for persons or animals to come in accidental contact with the energized rail. Hence, any possible accident therefrom, must and will come from a deliberate action on the part of the person. In this position, as will readily be observed, it will be impossible for any of the elements to interfere with the movements of traffic, through the coating of the rail with ice, snow, sleet, rain or otherwise; all of which has been thoroughly tested and demonstrated in the practical operation of this system.

THE FARNHAM PROTECTED THIRD-RAIL SYSTEM

The inverted third rail being installed upon the Philadelphia & Western Railroad, referred to on page 1088 of the STREET RAILWAY JOURNAL for Dec. 23, 1905, is what is known as the Farnham protected, inverted third rail, and is such a radical departure from the usual type of third rail that the operation of the road will no doubt be watched with unusual interest. The rail is the invention of E. W. Farnham, of the Farnham Company, electrical engineers and railroad contractors, Chicago, and its general designs may be understood from the illustration. The upright support brackets of malleable iron are securely fastened to the ends of the ties by lag screws, at intervals of 8 ft. The rail, of "U" shape, is provided with flanges at its two sides, by which it is suspended from the support brackets in a manner that effectively insulates it from the support brackets and at the same time permits the rail to move longitudinally, thus providing for the usual expansion and contraction. Sufficient allowance is made in the hanger for the rail to take up all vibration and jar between the iron hanger and steel rail, caused by the passing of trains upon the track rails. The method followed is claimed to be superior to that of supporting the rail in or on any insulation of a crystalline nature under tension, as it avoids all tendency to direct vibration, jarring or pounding between the insulating material and the steel rail.



SECTION OF TRACK AND AXLE, SHOWING THIRD-RAIL SYSTEM

Efforts to avoid these conditions and provide a method of suspension having stability and durability resulted in the form now being constructed, and also in the production of an insulator consisting of a fibrous vegetable compound, said to be of great mechanical strength, fire-proof and of high dielectric strength. A compressional, rather than a tensional strain is exerted upon the insulator by the method of suspension of the rail. An insulating bushing is fitted into a cup cavity in the top of the support bracket. A steel bolt passing through the steel washer at the top of the bushing, thence through the bushing and the insulator, engages the rail hanger by a screw thread, which, when screwed up tight, suspends the rail in the hanger. The rail, hanger and bracket are thus thoroughly insulated from the support bracket. As a further protection, after the bolt has been screwed up tight, the cup in the top of the bracket is poured full of the insulating compound in liquid form, which eliminates all danger of a foreign substance causing a ground or short circuit, and at the same time prevents the bolt working loose. The "U" shape form of the rail permits the carrying of copper reinforcing wires in the groove, for the purpose of providing additional carrying capacity. When employed, such reinforcing wires are laid bare of insulation directly within the groove, and low-resistance contacts are made by a compound plastic bond at all rail-joints, thus bonding the reinforcing wire and the rail-joints at the same time.

The rail itself is of very soft steel, and is made especially for this section for the purpose of providing a section of very high conductivity. Protection is given the rail by three planks, each of sufficient length to extend between two of the upright support brackets, and fitting into recesses or pockets in the brackets. The top plank retains the other two in position, and a casting called the cover lock, which covers the joint between two adjacent top planks, locks all of the protecting planks in position. The cover is so arranged that snow instead of piling up underneath, will be blown through, leaving the space under the rail clear and unobstructed. The boards are all dipped in an insulating compound of a fire-proof nature before being put in place.

A special type of shoe-carrier and collector is used in connection with this underrunning contact rail, which gives a parallel motion at all times, and consequently a perfect contact with the under surface of the rail, and an even wear upon both the rail and the shoe.

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During some days, since the beginning of the holiday shopping season, the New York Subway has carried from 510,000 to 514,000 passengers, while the average for many days past has been something over 500,000 daily. Naturally enough, the underground has had some effect upon the elevated roads, as in the case of Monday, Dec. 11, for instance, when the elevated traffic recorded 730,000 passengers, a decrease of 27,000 from the same date in 1904. At the same time, the increase for that day over Dec. 11, 1904, in subway travel was 302,000 passengers, showing that the underground is not only taking the overhead, but the surface companies as well. However, the fact should be remembered that several thousand people now live along the line of the subway, or near it, that did not live there a year ago. The Interborough Company is now carrying an average of 1,250,000 persons daily, compared with about 1,060,000 a year ago at this time. Traffic figures for the early part of December, so the records show, generally hold good as an average until May, which means that the monthly gross earnings will show an increase of over $250,000.

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FARNHAM SAYS HE HAS HARMLESS THIRD RAIL

Unaffected by Weather Conditions, Chicago Man Asserts.

HERE TO EXPLAIN SYSTEM

By Invention No Section of Line Would Be Charged Unless Occupied by Train.

E. W. Farnham, President of the Farnham Company of Chicago, which claims to control the only electric third-rail train system that is safe and trustworthy, is at the Victoria Hotel. By means of a model he explained yesterday to a reporter for THE NEW YORK TIMES the principle of his invention. Mr. Farnham arrived in New York some days ago, and has been in consultation with several local mechanical experts and electrical engineers in the hope of securing for his company a contract to install his system on the underground road and also on the elevated system.

By means of his device, in which the third rail is inverted, and practically hidden from view, Mr. Farnham declares it impossible for persons or animals to come in contact with the charged rail. Its efficacy, he maintains, is in no way affected by sleet, snow, rains, high winds, lightning, or other weather conditions which heretofore have delayed traffic.

In the Farnham system the third or contact rail is stretched alongside the track by means of an iron support shaped much like the letter C, and is insulated at every point, except where the "shoe" travels, by a covering said to be practically indestructible. The company claims to control, among other things, all of the basic and fundamental patents involving the inverted rail and its insulation, the carrier or trolley for under-running contact therewith, the electric power control by which a sectional system is made possible, and also the electric block signals and train safety stops in connection with the sectional control, whereby head-on or rear-end collisions are rendered impossible.

Mr. Farnham explained that by a sectional system was meant one in which the electric power is conducted to the car or cars in sections of any desired length and made operative by the moving train. For example, if adopted on the elevated trains might be run with a headway of twenty seconds, and wherever it might be employed no section of the line would be charged unless occupied by a train. The same power that is used to propel the train is also employed to operate block signals and safety stops, as at crossings or intersections of the road.

Other advantages claimed for the system over the overhead trolley and the open third rail are economy in the cost of installation, a saving in the cost of operation and maintenance, and also economy in power—the latter being assured by "positive insulation and non-exposure to the elements."

Absolute safety, however, under any and all conditions, is the inventor's strongest claim for the system. As to the speed possible to attain by its use, practical tests are said to have shown that ninety miles an hour may be reached without any difficulty.

"By the under-running trolley contact," said Mr. Farnham, "a pressure of but three pounds upon the third rail is sufficient for all operating requirements, while the top contact commonly employed necessitates a minimum weight of fourteen pounds on the elevated roads in Chicago and sixty pounds on the Boston elevated. This weight makes the floating shoe tend to escape from the centre of gravity as the resistance increases, whereas by our system any tendency to escape from the centre of gravity adds to the shoe's contact capacity, or pressure. Our shoe, or collector, is non-magnetic, instead of being made of cast iron, and is connected with the car by protected wires. It is designed to wear to a very smooth surface, which eliminates the sliding or grinding noise usually heard."

Mr. Farnham, who formerly was Superintendent of Transportation on the Chicago, Burlington and Quincy Railroad, said that his company has already contracted to equip 469 miles of railway in different parts of the West, some sections of which will be completed by Jan. 1, 1905. Two years ago it leased a stretch of track from the Burlington Road just west of Chicago, where its cars have been subjected to an extended trial, under the observation of railway engineers, among whom was Chief Engineer Thompson of the Great Northern Railway in England.

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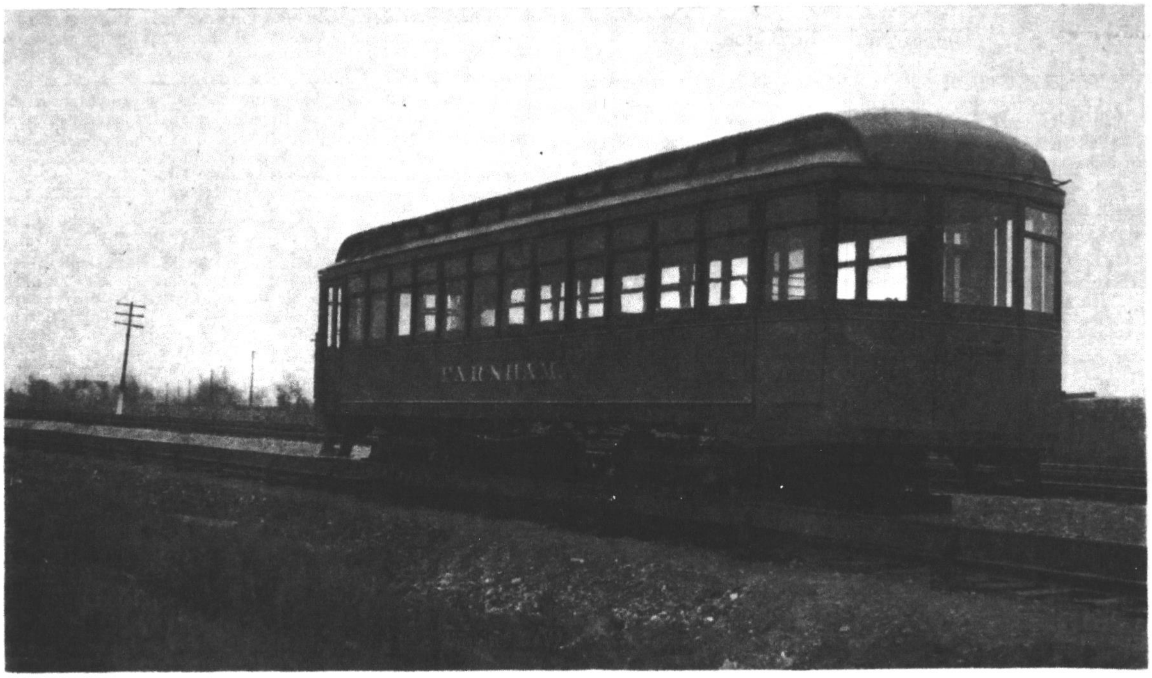
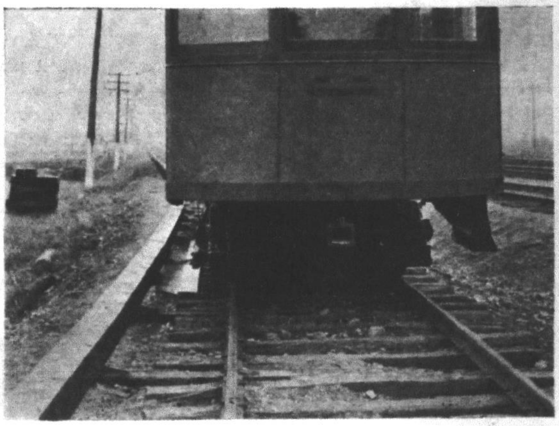
The Farnham Third-Rail System

On Saturday, Nov. 2, a number of engineers and railroad men of Chicago were invited to a test of a third-rail system which is the invention of E. W. Farnham, superintendent of special car service of the Chicago, Burlington & Quincy Railroad. Mr. Farnham had a special train for the invited guests, which conveyed them from the Union Depot to a point near Clyde, Ill., west of Chicago. There a stretch of track about one-third of a mile long had been equipped with the Farnham third-rail system.

This system has a flat third rail enclosed in an inverted trough, which protects it from short-circuits and also avoids the danger of persons receiving a shock from that portion of the rail which is alive. However, only a short piece of rail is alive at any one time. At regular intervals is a short section of rail which is not fixed rigidly, as is the greater portion of the third rail, but is free to swing with a slight endwise motion. The contact shoe of the car is carried on an arm extending out laterally from the truck, as is shown in one of the accompanying engravings, and this arm reaches up underneath the trough which covers the third rail and bears on its end the shoe. The shoe bears on both sides of the third rail, which is a flat piece of steel. There is sufficient friction between the shoe and third rail so that when the shoe passes the swinging rail this rail is given a slight endwise movement. This endwise movement of the section of third rail mechanically operates a switch which throws the current on to the section of track upon which the car is entering. When once the current is thrown on to this section of track the switch supplying it is held closed by an electromagnet in the feeder circuit as long as there is any current flowing through the car; that is, the switch holds itself closed automatically by the current flowing through it. Of course, in order to keep the switch closed when the current is thrown off from the motors it is necessary that a heater or a lamp circuit be always in use on the car. When the car leaves the section the switch supplying the section automatically throws itself out by gravity. The same process is repeated upon entering the next section; that is, the contact shoe of the car passes under the swinging rail which operates to close the switch on the section ahead. On a single-track road it is, of course, necessary to have each section of swinging rail equipped with two switches, one switch for the section ahead going in one direction and the other for the other direction. The function of the swinging rail is simply to close the switch supplying the section of third rail ahead of the car. After the switch is closed this swinging rail goes back by gravity to its original position, and the switch supplying the section will open if no current is flowing through it. If it is desired to cut the current off of the third rail while the car is upon it, it is only necessary to open all the circuits on the car which is on that section, so that no current is flowing through it. The sections of third rail can be any length desired. On the trial track which was inspected the sections are several hundred feet long. The swinging-rail sections which operate the switches are, of course, short. The movement of the swinging rail necessary to operate a switch is very small.



VIEW OF THIRD-RAIL CAR AT CLYDE, ILL.



END VIEW OF CAR, SHOWING METHOD OF MAKING CONTACT

The accompanying illustrations show the third rail both as it appears finished and under construction. A car with the arm carrying the contact shoe is also shown. It will be seen from these illustrations that the third rail is at a considerable distance outside of the track. The principle upon which the Farnham system is based is certainly a very simple one, and while the details of the switches have probably not been worked out as thoroughly as they will be, the operation at the trial was entirely satisfactory, both at speeds as high as 20 miles per hour and low speeds, and there were no hitches of any kind.

The cost of construction with a light third-rail is given by Mr. Farnham as considerably less than that of an ordinary overhead trolley system, and the promoters also talk of its use in conduits in city service. It would, of course, be possible to place the whole

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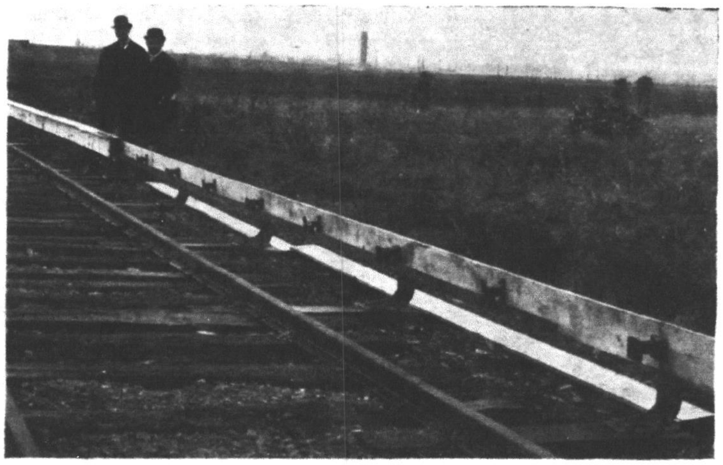
device in a conduit on city streets. It would seem, however, that the greatest field for the system is in the electrical equipment of interurban lines and for suburban service of present steam lines. The daily newspapers of Chicago have asserted that the Burlington road is about to equip the suburban service with Mr. Farnham's third-rail system, but there seems to be absolutely no authority for the statement, and Mr. Farnham himself denies it. This is not saying, however, that such a move is not likely to be considered before a great while.



VIEW, SHOWING METHOD OF LAYING AND PROTECTING THIRD RAIL

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Improvements in Boston

The Boston Elevated Railway Company is getting its lines in a condition where four-car trains, instead of three-car as at present, can be operated on both elevated structure and subway. The stations in the subway are having their platforms lengthened where necessary, and it is thought that in about a week the new service will be started. The circuitous route followed by the track, even at stations, has necessitated many curved platforms, especially in the subway, and at these sliding sections of floor have to be used at either the end or side doors of the cars if both means of ingress and egress are to be utilized. The immense number of passengers carried and the short hauls made keep all end and side doors busy during the rush hours, and at some stations throughout the day. Some remarkable records are being made by the present three-car trains, 4800 train-miles being the usual day's run, which means between 600 and 700 round trips. In order to keep up this schedule, therefore, it is imperative that great regularity in despatching and precision in the headway be maintained, and a most complete block signal system, indicator system and telephone and telegraph service are in operation. An ingenious form of indicator is used at the Sullivan Square terminal, which shows the attendants at all times the position of trains on the section between the Charleston drawbridge and the terminal station. This indicator consists of a small board on which is drawn a diagram of the track between the station and bridge. Set in the board at approximately equal distances apart are six or eight small incandescent lamps, connected to the sections which they represent by individual circuits and operated by a storage battery. When a train leaves the bridge the lowest lamp on the board lights up, and as it approaches the terminal it completes the circuit of each of the other lamps in succession. Three of these boards are used in parallel at Sullivan Square—two on the station platform and one in the superintendent's office—and they greatly simplify the work of maintaining the schedule. The despatchers always know when to expect the next train in and its present position, so that if too long an interval is apparent one of the extra trains which is always waiting in the adjoining yards is run in, manned by a crew in readiness on the platform, and the headway kept as desired. Another important function of the indicators is to inform the despatchers whether it would be wise for them to hold a surface car, with which the elevated trains make connection in large numbers at this terminal, until the next train arrives or to let it go on its exact starting time. The system has proved so satisfactory in its operation that already steps are being taken to further extend it to other sections of the line. Eventually the entire road may be equipped

No Politics in New York Street Railways

A typical instance of the way in which charges of wrongdoing on the part of corporations are freely bandied about for political effect by municipal candidates occurred last week in New York, where a certain political speaker charged that the employees of the Metropolitan Street Railway Company were being coerced to vote against the Fusion (or Republican) candidate for district attorney. This was vehemently denied by Mr. Vreeland, himself a Republican, at a meeting of the Metropolitan Street Railway Association held on Nov. 2. In speaking of the employees of the Metropolitan Company at this meeting, Mr. Vreeland said in part:

"For a little over eight years I have been connected with the Metropolitan Street Railway Company. For five years I have appeared on this or the other platforms of this association on nearly every meeting night and talked to the men assembled. There has never been any question brought to the attention of the association save its own affairs. Now, with the other troubles that we have as railroad men, we have another trouble.

"For eight years, as you who are the older men in this association well know, for five, three, two years or one, the younger men know, there has been absolutely no politics in the operation of the Metropolitan Street Railway system. You have not had to depend on any political leader to secure a position, you have not had to depend on any political leader to keep a position. Your work, your record, the character of service rendered by you has been the only thing entering into the question of your employment. For the time that I have been connected with this property no man connected with the property, irrespective of his position, can honestly say that until now I have ever discussed politics in any shape whatever. No man has been or ever will be asked or held responsible for the exercise of his rights politically while I am president of this company, while I know it. [Cheers.]

"It is but fair to you, fair to myself, for me to say now that I myself have always been a Republican, that I have never voted anything but the Republican ticket. The principal stockholders of this company, who are its directors and executive board, are the leading Republicans in their States and in the affairs of the nation, so an attempt to connect us with any political party is absurd. I felt it was due myself as president of this company, and to you as employees of this company, to say to-night that the assertion that you and I were acting as receivers of stolen goods, administering properties which were stolen from the public, was a base lie. There is not a franchise that the Metropolitan Street Railway Company has gotten since its organization or owns to-day but was bought in the open market and bought in at a price, and any set of men had a right to go there and make a bid for it. It is false when any one says that this company has never paid the highest market price for any property which it controls.

"I say further that since we have been pulled into this political issue we have been accused of all kind of things. We have been accused of coercion, attempting to say what you shall do. I answer any man who says so that it is an insult to the intelligence of the men of the Metropolitan Street Railway Company to say that they would allow me or any other man to influence their judgment as to what was fair and right to their city and country."

Mr. Vreeland's speech was enthusiastically cheered, and when he had concluded three cheers for "the next President of the United States" were called for and given with a will.

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Sheet-Iron Panels in Dry Climates

It has been noted in these columns at various times that sheet-iron car panels are used in a number of Western cities—most notably at Los Angeles, where the very dry weather at certain seasons makes the shrinking and cracking of a wood panel almost a certainty. The same plan is also in use by the San Antonio Traction Company, at San Antonio, Texas. While the climate is not uniformly dry at San Antonio, it nevertheless is dry enough part of the time, so that sheet-iron panels are found to be the thing. In the Rocky Mountain districts the climate is so dry the year round that no seasoning that can be given a panel in Eastern shops will prevent it from cracking and drawing. In Southern California and in Texas there is sufficient moisture at some seasons, but this only makes the shrinking of the panels more noticeable and objectionable the dry times.

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TWIN CITY & LAKE SUPERIOR RAILWAY
The Arrow Line - 132 miles

Minnesota History Research Center
Contents of Records

Box 1 Location 152.H10.1(B)

Twin City & Lake Superior Railway	
Promotional brochures 1908	1 folder
Sample forms	1 folder
Correspondence 1907-1914	11 folders
Western Promotion & Improvement Company	
Minutes	1906-1914
Stock Certificates # 1- 250	1906-1907
Stock Certificates #751-1001	1908-1910

Box 2 (oversize) Location 144.D.6.1(B)

Western Promotion & Improvement Company		
Journals	2 volumes	1906-1918
Ledgers	2 volumes	1906-1911
Cash Receipts Register		1908-1918
Check Register		1906-1915
Sample forms		1 folder
Western Surety & Adjustment Company		
Contract Index		Undated
Commission Agents' Ledger		1907-1912
Accounts Payable Ledger		1907-1908

Box 3 (oversize) Location 144.D.6.2(F)

Western Surety & Adjustment Company	
Collection Register	1908-1909
Personal Ledger	1907-1908
Twin City & Lake Superior Railway	
Ledger	1907-1908
Expense Detail Register	1907-1908
Unidentified Companies	
Ledger	1907-1908
Check Stubs	1906

Box 4 (double oversize) Location 142.C.11.4

Twin City & Lake Superior Railway	
Auditor's Journal	1907-1914
Employee Salary Record	1907-1908
Treasurer's Check Record	1907-1912

Box 5 (double oversize) Location 142.C.11.6

Western Surety & Adjustment Co.	
Auditor's Journal	1907-1910
Twin City & Lake Superior Railway	
Six Plat Maps:	
Silverton, Pine County	Undated
Duxbury, Pine County	1908
Montgomery, Burnett County	Undated
Plat of line thru Burnett County, Wisconsin	1909
Plat of line thru Anoka County, Minnesota	1908
Plat of line thru Douglas County, Wisconsin	1908

Box 6 (Map Storage Tube) Location A2/ovl

Twin City & Lake Superior Railway	
Plat of line thru Polk and Burnett Counties, Wisconsin (41 inches wide by 19 feet long)	1908